THE LANCET.

A Journal of British and Foreign Medicine, Surgery, Obstetrics, Physiology, Chemistry, Pharmacology, Public Health, and News.

TELEGRAPHIC ADDRESS—LANCET WESTRAND LONDON TELEPHONE NUMBER—GERRARD 5356

No. XXIV. of Vol. II., 1919.
No. 5024. Vol. CXCVII. LONDON, SATURDAY, DECEMBER 13, 1919. Pp. 128—Price 10d.

New (3rd) Edition. With 22 Illustrations. 15s. net; postage 6d.

VICIOUS CIRCLES IN DISEASE.

By J. B. HURRY, M.A., M.D. (Cantab.).

Sir CLIFFORD ALLBUTT says:—"This aspect of medicine is one which no practitioner of the *ars medendi* can afford to neglect."

London: J. & A. Churchill, 7, Great Marlborough-street, W. 1.

NEW EDITION. ENTIRELY RESET. 202 Illus. and Plates. 20s. net.

THE DISEASES OF WOMEN.

By THOMAS G. STEVENS, M.D., F.R.C.S., M.R.C.P., Obstetric Surgeon St. Mary's, the Hospital for Women; Examiner to Central Midwives Board, &c.

University of London Press, 18, Warwick-square, E.C. 4.

Price 18s. net. Post free (inland), 18s. 9d.

NINETEENTH EDITION (REPRINTED).

SQUIRE'S COMPANION.

"SQUIRE'S COMPANION is a work of great practical value to medical practitioners, as well as to pharmaceutical chemists, dispensers, and pharmacologists."—THE BRITISH MEDICAL JOURNAL.

Published by J. & A. Churchill, 7, Great Marlborough-st., London, W. 1.

Demy 8vo. 3s. net, postage 4d.

A NEW TREATMENT FOR GONORRHŒA.

By CHARLES RUSS, M.B. Lond., M.R.C.S., Physician-in-Charge Electro-therapeutic Department, Male Lock Hospital, London.

"This form of treatment merits further attention, as it is both scientific and ingenious."—BRITISH MEDICAL JOURNAL.

"We welcome this small work as pointing to a distinct advance in our efforts to master a disease so often belittled but which may have most dire results."—MEDICAL PRESS AND CIRCULAR.

London: H. K. Lewis & Co. Ltd., 136 Gower-street, W.C. 1.

Second Edition. 8 Plates and 36 Figs. Price 7s. 6d.

BELLAMY GARDNER'S SURGICAL ANÆSTHESIA.

"Its pages focus much valuable information."—BRIT. MED. JOUR.

London: Baillière, Tindall & Cox, 8, Henrietta-st., Covent Garden, W.C. 2.

OXFORD MEDICAL PUBLICATIONS.

Just Published.

THE MICROSCOPIC ANATOMY OF THE TEETH.

BY

J. HOWARD MUMMERY, D.Sc. (Penn.), M.R.C.S., L.D.S.

Demy 8vo. Cloth. 390 pp., with 243 illustrations in the text, three Plates in Colour, and two in Black and White.

Price 25s net.

THE CAMBRIDGE NOTE-BOOK FOR PRACTICAL BIOLOGY (ZOOLOGY).

By STANLEY GARDINER, M.A., F.R.S., Professor of Zoology, University of Cambridge; and L. A. BORRADAILE, M.A., Lecturer in Zoology in the University of Cambridge; Fellow, Dean and Lecturer of Selwyn College.

Crown 4to. 84 pp. Quarter bound. Price 5s. net.

Henry Frowde, Hodder and Stoughton, 17, Warwick-square, Newgate-street, London, E.C. 4.

By FREDERICK W. PRICE, M.D., F.R.S. Edin., Physician to the Great Northern Central Hospital; Assistant Physician to the National Hospital for Diseases of the Heart, London.

DISEASES OF THE HEART.

THEIR DIAGNOSIS, PROGNOSIS, AND TREATMENT BY MODERN METHODS.

WITH A CHAPTER ON THE ELECTRO-CARDIOGRAPH.

Demy 8vo. 484 pp. With 245 Text-figures. 21s. net.

LANCET.—"By great care and by the use of an amazing amount of material, he has accomplished what many readers have been waiting for, giving us a complete account of the diagnosis, prognosis, and treatment of heart diseases by modern methods in association with all the invaluable teaching bequeathed to us by the older masters of clinical observation."

Henry Frowde and Hodder & Stoughton, 17, Warwick-square, Newgate-street, London, E.C. 4.

SAUNDERS' USEFUL BOOKS

ARE THE BEST CHRISTMAS GIFTS

See Saunders' Advertisement on Page 3.

E. & S. LIVINGSTONE,

Medical, Surgical, & Scientific Publishers.

JUST PUBLISHED. Crown 8vo. Cloth. 214 + xii. pages. 54 Illustrations. Price 7s. 6d., postage 5d.

HANDBOOK OF ANÆSTHETICS. By J. STUART ROSS, M.B., Ch.B., F.R.C.S.E., Lecturer in Practical Anæsthetics, University of Edinburgh; Honorary Anæsthetist, Edinburgh Dental School; Anæsthetist, Deaconess Hospital; Instructor in Anæsthetics, Edinburgh Royal Infirmary. WITH AN INTRODUCTION by HY. ALEXIS THOMSON, C.M.G., M.D., F.R.C.S.E., Professor of Surgery, University of Edinburgh; and Chapters upon LOCAL AND SPINAL ANÆSTHESIA, by WM. QUARRY WOOD, M.D., F.R.C.S.E., lately Temporary Assistant Surgeon, Edinburgh Royal Infirmary; and upon INTRA-TRACHEAL ANÆSTHESIA, by H. TORRANCE THOMSON, M.D., F.R.C.S.E., Anæsthetist to the Leith Hospital.

JUST PUBLISHED. Crown 8vo. Cloth. 160 + xx. pages. 46 Illustrations. Price 6s. net, postage 4d.

HANDBOOK OF SKIN DISEASES. By FRED. GARDINER, M.D., B.Sc. (Public Health), F.R.C.S.E., Lecturer on Skin Diseases, University of Edinburgh; Physician for Diseases of the Skin, Royal Infirmary, Edinburgh.

JUST PUBLISHED. Second Edition. Crown 8vo. 416 + viii. pages. With 8 Full-page Plates and other Illustrations. Price 8s. 6d. net, postage 6d.

MANUAL OF DISEASES OF CHILDREN. By JAMES BURNETT, M.A., M.D., M.R.C.P. (Edin.), Physician for Diseases of Infancy and Childhood to, and Physician in Charge of the Child Welfare Clinic at, the Marshall Street Dispensary, Edinburgh; a Vice-President of the Royal Society of Medicine (Section for the Study of Disease in Children), &c., &c.

Full Catalogue sent post free on application.

17, Teviot Place, Edinburgh.

LEWIS'S PUBLICATIONS.

JUST PUBLISHED. TWELFTH Edition. With Coloured Plates and other Illustrations. Demy 8vo. 22s. 6d. net; postage 6d., abroad 9d.

SWANZY'S HANDBOOK OF

DISEASES OF THE EYE AND THEIR TREATMENT.

Revised and Edited by **LOUIS WERNER**, M.B., F.R.C.S.I., Sen. Mod. Univ., Dub.; Surgeon to the Royal Victoria Eye and Ear Hospital; Professor of Ophthalmology, University College, Dublin; and Examiner in Ophthalmology, Dublin University.

NOW READY. With 24 Plates and 13 Diagrams. Demy 8vo. 12s. 6d. net; postage 6d., abroad 8d.

CHRONIC TRAUMATIC OSTEOMYELITIS: Its Pathology and Treatment.

By J. RENFREW WHITE, M.B. (N.Z.), F.R.C.S., formerly Res. Surg. Officer, Roy. Nat. Orth. Hosp., London; Surg., Tooting Military Orth. Hospital; Orth. Surg., N.Z. Forces.

"The subject matter is well arranged and classified, the plates are good, and the diagrams most useful. The chapters on treatment are particularly valuable."—THE LANCET.

JUST PUBLISHED. SECOND Edition. Crown 8vo. 6s. 6d. net; postage 5d.

MODERN MEDICINE AND SOME MODERN REMEDIES.

Practical Notes for the General Practitioner.

By THOMAS BODLEY SCOTT, M.R.C.S., L.R.C.P.

With a Preface by Sir LAUDER BRUNTON.

"The fact that it has reached a second edition is proof that it has met with much appreciation."—BRITISH MEDICAL JOURNAL.

*** *Complete CATALOGUE post free on application.*

LONDON: H. K. LEWIS & CO. LTD., 136 GOWER STREET & 24 GOWER PLACE, W.C. 1.

All rights reserved.

A BRITISH REMEDY

FOR BACILLARY AND COCCIGENIC INFECTIONS

OF THE RESPIRATORY ORGANS.

PROPHYLACTIC, THERAPEUTIC &

WONDERFULLY DEMULCENT.

THE SAFEST AND BEST LOZENGE TO PRESCRIBE FOR PATIENTS SUFFERING FROM AND SUBJECT TO ANY AFFECTIONS OF THE MOUTH & PHARYNX.

EDWARD COOK & CO. Ltd. (Disinfectant Specialists), Bow, London, E.3.

Valentine's Meat-Juice

For **Quieting** the **Irritable Stomach**, for **Aiding** the **Digestion** and for **Sustaining** and **Strengthening**, **Valentine's Meat-Juice** is **Extensively Employed** in the treatment of

Phthisis.

Dr. Gouel, *Physician in Chief of the Villepinte Hospital for Consumption, Paris, France:* "VALENTINE'S MEAT-JUICE succeeds well in cases of Anæmia and in the treatment of Tuberculosis in an advanced stage when the stomach is intolerant."

Dr. Pietro Borromeo, *Physician and Surgeon of the Hospital of Rome, Italy:* "I have tried VALENTINE'S MEAT-JUICE in the Tuberculosis Division of the Hospital of the Holy Spirit, and have proved the great advantages that it renders for the nutrition of the consumptive. Pleasant to the taste of the most fastidious of the sick, it does not irritate the stomach; but stimulates the peptogastric functions so as to improve notably the appetite, even in cases of continuous and high fever and of extreme loss of strength."

For sale by European and American Chemists and Druggists.

VALENTINE'S MEAT-JUICE COMPANY.

RICHMOND. VIRGINIA. U. S. A.

D 186

THE LANCET.

No. 5024. LONDON, SATURDAY, DECEMBER 13, 1919. Vol. CXCVII.

CONTENTS.

THE WHOLE OF THE LITERARY MATTER IN THE LANCET IS COPYRIGHT.

CONSIDERATIONS on Empyema. A Presidential Address delivered before the Leicester Medical Society on Oct. 8th, 1919, by ROBERT SEVESTRE, M.D. Cantab., Honorary Physician, the Royal Infirmary, Leicester 1059

INAUGURAL ADDRESS (abridged) on the Teaching of Pathology. Delivered before the Section of Pathology, Royal Academy of Medicine in Ireland, on Oct. 31st, 1919, by THOMAS T. O'FARRELL, F.R.C.S. Irel., D.P.H., President, Section of Pathology, Royal Academy of Medicine in Ireland; First Assistant in Pathology, University College, Dublin, N.U.I. 1062

ORIGINAL ARTICLES.

The Need for Schools of Psychiatry. By C. HUBERT BOND, F.R.C.P. Lond., Commissioner of the Board of Control and Emeritus Lecturer in Psychiatry at Middlesex Hospital 1065

The Treatment of Muscles by Artificial Stimulation. By G. COOPER, B.A., M.D. Belf., Major, R.A.M.C.(T.C.); I/C. Electro-Therapeutic Departments, Netley 1067

Some Notes on 120 Cases of Acute Appendicitis Operated on at the Royal Naval Hospital at South Queensferry. By C. P. G. WAKELEY, R.N., M.R.C.S. Eng., L.R.C.P. Lond., Assistant Demonstrator of Anatomy, King's College, London; Temporary Surgeon-Lieutenant, R.N. 1071

A Note on Dextrocardia, Complete and Incomplete, with Four Illustrative Cases. By BASIL PARSONS-SMITH, M.D., B.S. Lond., M.R.C.P. Lond., late Capt., R.A.M.C. (T.C.) 1076

An Achondroplasic Skull Excavated on the Site of the Roman Cemetery at Chester. By J. ELLIOTT, O.B.E., M.D., B.Sc., F.R.C.P. (With a Note on the Character of the Skull by Professor ARTHUR KEITH, F.R.S.) — *(Illustrated)* 1098

CLINICAL NOTES:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A Case of Acute Pulmonary Œdema. By GUY J. BRANSON, M.D. Lond. 1078

A Case of Peripheral Multiple Neuritis Associated with Primary Malignant Disease of the Liver. By T. DAVIES PRYCE, M.R.C.S., Consulting Surgeon, Nottingham General Dispensary 1078

An Unusual Cause of Death under Anæsthetic. By ERNEST PLAYFAIR, M.B., M.R.C.P. Lond., Assistant Anæsthetist, King's College Hospital 1079

MEDICAL SOCIETIES.

Royal Society of Medicine: Section of Surgery 1079
Section of Obstetrics and Gynæcology 1081
Section of Ophthalmology 1084
Section for the Study of Disease in Children 1085
Medico-Psychological Association of Great Britain and Ireland 1086
Tuberculosis Society 1086
The Medico-Legal Society 1087

REVIEWS AND NOTICES OF BOOKS.

Sir Victor Horsley. A Study of His Life and Work. By Stephen Paget 1088
General Surgery. Practical Medicine Series. Edited by Albert J. Ochsner, M.D., F.R.M.S., LL.D., F.A.C.S., Major M.R.C., U.S. Army.. 1089
War Surgery of the Face. By John B. Roberts, A.M., M.D. 1089
Mental Diseases. By R. H. Cole, M.D., F.R.C.P. Second edition 1089
Practical Sanitation: A Handbook for Sanitary Inspectors and Others Interested in Sanitation. By George Reid, O.B.E., M.D., D.P.H. Nineteenth edition 1089
Letters to a Young Man on Love and Health. By Walter M. Gallichan 1089
A Corner Stone of Reconstruction: A Book on Working for Social Purity Among Men. By Four Chaplains to the Forces 1089
Quarterly Journal of Experimental Physiology 1090
Archivio Italiano di Chirurgia (Italian Archives of Surgery) 1090

LEADING ARTICLES.

THE NEW MEASLES NOTIFICATION ORDER 1091
THE TEACHING OF PRACTICAL MIDWIFERY 1092
THE PLACE OF THE PHYSICIAN IN OPHTHALMOLOGY 1093

ANNOTATIONS.

The Prevention of Disease among Troops on Active Service 1094
The Health of the School Child 1095
Wanted: A Pathognomonic Sign of Early Active Tuberculosis 1095
Dextrocardia 1096
Difficulties in Slum Clearance 1096
Remarkable Gunshot Injury of Thorax and Abdomen.. 1096
A New South African Medical School 1097
Survival of Quadruplets 1097
The Medical Directory 1097
Medical Insurance Agency ... 1098

SPECIAL ARTICLES.

Scotland 1100
Ireland 1101
Paris 1102
Urban Vital Statistics: Vital Statistics of London during November, 1919 1103

THE SERVICES.

The Honours List 1104
Royal Naval Medical Service 1104
Army Medical Service, &c.... 1104

CORRESPONDENCE.

The Treatment of Malaria (Dr. W. H. Willcox) 1105
The Instability of Red Blood Cells Preserved in the Method of Rous and Turner (Dr. Peyton Rous).. 1106
A Sample of the Population (Mr. D. F. Shearer) 1106
The "Gridiron" Incision (Dr. Richard A. Barlow) 1107
Copper Alanin in Inoperable Cancer (Dr. James Donelan) 1107
The Treatment of Antral Suppuration (Dr. A. R. Friel) 1107
Some Uses of Diathermy (Mr. Herbert Frankling) ... 1107
The Prevention of Venereal Disease (Sir G. Archdall Reid) 1108
Dysentery Simulating Tuberculosis (Dr. Frank Clifford) 1109
General Medical Council: Irish Election (Dr. J. C. McWalter) 1109

OBITUARY.

Nelson Congreve Dobson, F.R.C.S. Eng., Ch.M. 1109
Arthur Evershed, M.R.C.P. Lond., M.R.C.S. Eng. 1110
Frederick Marsdin, M.B. Lond., F.R.C.S. Eng. 1110
Norman P. Laing, M.D., Ch.B. Liverp. 1109

MEDICAL NEWS.

Welsh Priory of St. John 1087
Enlargement of Bolton Infirmary 1105
The Belgian Medical Profession 1110
The Society of Apothecaries of London: Lord Mayor's Day Dinner 1110
Middlesex Hospital Festival Dinner 1111
Complimentary Dinner to Sir John MacAlister 1111
St. Mary's Hospital Medical Society 1111
Bristol Medical School Dinner 1111
Royal Surgical Aid Society: An Appeal 1111
Royal Medical Benevolent Fund 1111
Small-pox in Cheshire 1111
Derby Medical Society 1111
Leeds and West Riding Medico-Chirurgical Society 1111
University of Manchester 1112
Birmingham Health Record 1112
General Hospital, Birmingham 1112
A Clinic in Psychiatry in Cardiff 1112
Guest Hospital, Dudley 1112
Donations and Bequests 1112

PARLIAMENTARY INTELLIGENCE.

House of Lords 1112
House of Commons 1112

NOTES, SHORT COMMENTS, &c.

Public Health in Egypt, 1917 1115
Public Health at Hong-Kong in 1918 1115
"The Causes of Infant Mortality" 1116
More Hints for Cripples 1116
The Metropolitan Water-supply during July, August, and September, 1919 1116
A Competition in Ingenuity 1116
Maternal Impressions in New Mexico 1116

Medical Diary 1114
Appointments, Vacancies 1114
Births, Marriages, and Deaths 1115
Communications received 1115
Books, &c., received 1116

JOHN BALE, SONS & DANIELSSON, Ltd.

No. 3—NOW READY.

TUBERCLE

Monthly - 2/6 net. Annual Subscription - 25/- net.

CONTENTS.—DECEMBER, 1919.

SIGNED ARTICLES—Syphilis and Tuberculosis—the work of Emile Sergent. By A. MIRANDE.—The Pneumothorax Treatment of Pulmonary Tuberculosis. By CLIVE RIVIERE.—SHORTER COMMUNICATIONS—A Note on the Treatment of Laryngeal Tuberculosis with Intravenous Gold. By B. G. GLOVER. BOOK NOTICES AND ABSTRACTS — *Book Notices:* Pulmonary Tuberculosis. By MAURICE FISHBERG, M.D.—The Future of Medicine. By Sir JAMES MACKENZIE, M.D., F.R.S.—The Care and After-care of Consumptives. By HAROLD VALLOW, M.D.—Clinical Tuberculosis. By F. M. POTTENGER.—*Abstracts:* Institutional Treatment.—Alcohol and Tuberculosis.—An Uncommon Accident.—CRITICAL REVIEWS — The Sociological Aspect of Tuberculosis.—Friedmann's Turtle Vaccine.—A Reassuring Analysis.—Tobacco and Alcohol in Tuberculosis.—CURRENT TOPICS.—AT HOME AND ABROAD—England.—Ireland.—LETTERS.—CENTRAL AND LOCAL AUTHORITIES.—SOCIETIES.—NEWS.—APPOINTMENTS.—DIARY.—BOOKS, JOURNALS, AND REPORTS.

83-91, GREAT TITCHFIELD STREET, OXFORD STREET, LONDON, W.1.

Vanity Fair Cartoons for Sale,
Medical and Scientific.
Lists free. Any Vanity Fair Cartoon supplied.
R. Weir & Co., High-road, Woodford, London, E. 18.

Price 1s. With Illustrations.

APPLICATION OF TRUSSES

to HERNIÆ. Clinical Lecture delivered at King's College Hospital. By the late JOHN WOOD, F.R.S., Senior Surgeon to King's College Hospital. Reprinted from "Medical Examiner."
London: Matthews Brothers, 10, New Oxford-street, W.C.

STAMMERING

W. J. KETLEY, "Tarrangower," Brondesbury, N.W.
(30 years colleague of late B. BEASLEY, Brampton Park, Huntingdon.)
Those interested in the subject should write for his book, which will be sent post free.

STAMMERING, SPEECH DEFECTS, VOICE TRAINING.
BEHNKE METHOD. Est. 1882.
Carried on by Miss BEHNKE, 39, Earl's Court-square, S.W. 5.
"Pre-eminent success in the education and treatment of stammering and other speech defects."—*The Times.*
"Thoroughly physiological principles."—*The Lancet.*
"The method is scientifically correct and perfectly effective."—*Guy's Hospital Gazette.*
From a Harley Street Specialist.—"The condition is to a great extent a psychical one, and the admirable results obtained by yourself and your parents have in my opinion been to a great extent due to your personal psychical influence over your subjects. You are at liberty to use this expression of my opinion." *(This letter may be seen.)*
"Stammering: Cleft Palate Speech: Lisping." 1s. 8d. post free.
Of Miss BEHNKE, 39, Earl's Court-square, S.W. 5.

CLOTH CASES FOR BINDING
THE HALF-YEARLY VOLUMES OF
"THE LANCET"
Can be obtained through any Bookseller in town or country, or from THE LANCET Office.

Price 2s. 6d. each by post 2s. 10d.

Office: 423, Strand, London, W.C. 2; and 1 & 2, Bedford-street, adjoining.

MESSRS. CONSTABLE & CO., LTD.

SIR VICTOR HORSLEY: *A Study of His Life and Work. By STEPHEN PAGET, F.R.C.S., Hon. Secretary Research Defence Society. With a Prefatory Note by LADY HORSLEY.* 21/- *net.*
THE TIMES LIT. SUPP.—"The earlier phases of his career are fully and well told by Mr. Stephen Paget. Indeed, it is not too much to say that of the many services which this author has rendered to scientific medicine and surgery none is so important as his biography of Sir Victor Horsley."

THE ROYAL ARMY MEDICAL CORPS AND THE GREAT WAR.
By Lieut.-Colonel F. E. BRERETON, R.A.M.C.
Mons, The Maine, The Aisne. With Maps. 14/- net.
THE DAILY MAIL.—"Colonel Brereton does well to stress the toil accomplished in various places by that part of the Corps officially known as 'Field Ambulances Bearer Sub-Divisions.'"

POST MORTEMS AND MORBID ANATOMY. *By THEODORE SHENNAN, M.D., F.R.C.S. Edin.* Illustrated. 18/- net.

LONDON: 10-12, ORANGE STREET, W.C. 2.

SMITH'S MEDICAL VISITING LISTS for 1920.

NOW READY. ORDER EARLY *to secure your copy.*

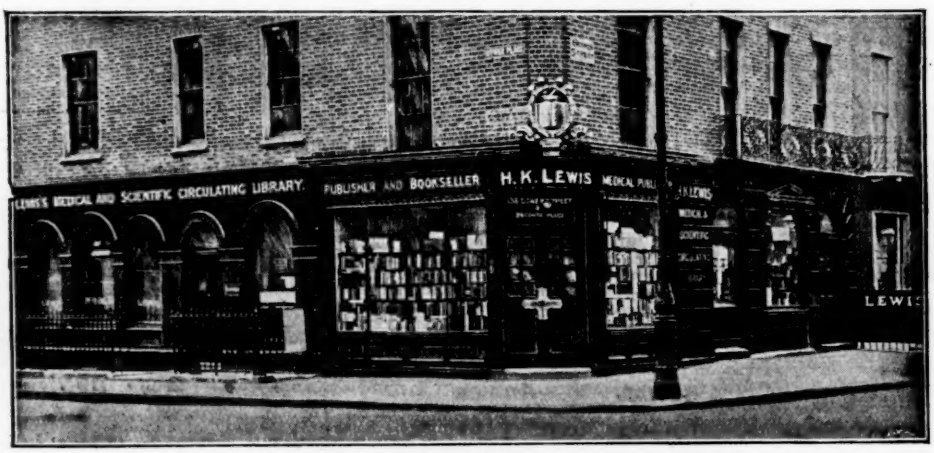
No. 1A.	25	Patients,	with	Journal.	Cloth,	6/-; Leather,	9/-
,, 2.	50	,,	without	,,	,,	6/6 ,,	9/-
,, 2A.	50	,,	with	,,	,,	7/- ,,	10/-
,, 3.	75	,,	with	,,	,,	9/- ,,	12/6
,, 4.	100	,,	without	,,	,,	10/- ,,	12/6

CONTENTS:—Ruled Pages for Visiting List and Journal—Obstetric and Vaccination Engagements—Addresses of Patients, Nurses, &c., &c.—Memoranda—Accounts asked for—Things lent: Books Instruments, &c.—Periodoscope—Fees—Table of Fevers, Poisons, &c.

HAZELL, WATSON & VINEY, Ltd,
52, Long Acre, London, W.C. 2.

H. K. LEWIS & Co. LTD.,
MEDICAL PUBLISHERS AND BOOKSELLERS.
Complete Stock of Recent Books in Medicine, and General Science, Note Books, &c.

SCIENTIFIC BOOKS.



MEDICAL BOOKS.

MEDICAL AND SCIENTIFIC Telephone: MUSEUM 1072.
ANNUAL SUBSCRIPTION FROM ONE GUINEA. **CIRCULATING LIBRARY.**
136 GOWER STREET & 24 GOWER PLACE, LONDON, W.C. 1.

Considerations ON EMPYEMA.

A Presidential Address delivered before the Leicester Medical Society on Oct. 8th, 1919,

BY ROBERT SEVESTRE, M.D. CANTAB.,
HONORARY PHYSICIAN, THE ROYAL INFIRMARY, LEICESTER.

GENTLEMEN,—For my address this evening I wish to bring before your notice some considerations on empyema. It is a subject to which a good deal of attention has been paid of late, for there are many problems of its pathology that are waiting to be answered, and though the general principles of treatment are clear, yet some of the modifications of the accepted treatment recently introduced are well worth considering. It is an important subject, for the mortality is higher than one would expect. In a series of cases at St. Bartholomew's Hospital extending over a period of 20 years the mortality worked out at 22·2 per cent. In a recent report of cases at an empyema camp in America it was found to be 27 per cent. Further, the length of time before complete recovery takes place is often considerable, and not infrequently deformity results from the falling in of the chest wall, which of itself may lead to changes which shorten the span of life.

The cause of empyema, is in the majority of cases, fairly evident; it is usually associated with some morbid condition affecting the lung or a neighbouring structure, or it may be part of general hæmic infection; but quite apart from these causes, there are cases in which the condition appears to be primary and may be overlooked.

THE DIAGNOSIS OF EMPYEMA.

The final diagnosis rests upon the withdrawal of pus by an exploring needle, and there should be no hesitation in exploring when there is any suspicion of pus in the pleural cavity. The diagnosis must be made as soon as possible as surgical procedures in the presence of long-standing sepsis are a source of increased danger. The deposit on the surface of the lung from the exudate and the formation of adhesions, if left unduly long, will hinder the expansion of the lung and delay recovery, and consequent changes in the lung itself may lead to permanent deformity.

The character of the fluid withdrawn by the exploring needle should be carefully noted, a smear preparation made at once for microscopic examination and a portion put aside for bacteriological investigation. The naked-eye appearance of the fluid varies considerably, and it may be a very difficult matter to decide whether the fluid is an unusually opaque sero-fibrinous exudate or a thin sero-purulent fluid. The fluid may have the usual appearance of pus, yellow or slightly greenish, it may be blood-stained, it may be stinking. Sometimes the fluid is almost limpid in character; at other times it is thick and glutinous. Occasionally it is sero-purulent, and it is in this class of case that the difficulty of making a differential diagnosis between a purulent or non-purulent fluid may arise. Moreover, in this connexion it is worth bearing in mind that sedimentation may take place inside the chest, and if the exploring needle has withdrawn some of the upper layer of fluid the actual condition present may be missed.

The examination of the smear preparation shows the presence of polymorphonuclear cells in stages of degeneration and in great abundance. A few lymphocytes may be present, and I have seen an occasional endothelial cell, but polymorph cells, lymphocytes, and endothelial cells may be present in other effusions, so that the diagnosis should not rest entirely upon the character of the cells alone: the clinical findings and the other characters of the fluid must be taken into consideration. Information obtained from bacteriological investigation is important, and is often of assistance in forming a prognosis, and in deciding the line of treatment to be adopted.

In purulent effusions many varieties of micro-organisms have been found. They may be in pure culture, or the case may be one of mixed infection in which several varieties are present. The pneumococci and the streptococci are the forms commonly present. The staphylococcus by itself is unusual, and is more often seen in a mixed infection. Many other varieties have been found, such as the ubiquitous colon bacillus. Typhoid bacillus is rare. The influenza bacillus of Pfeiffer may be expected when an epidemic of that disease is present. Actinomycosis has also been described.

Members of the anaerobic group of bacilli are not common in the empyema met with in civil practice, but in examples of infected hæmothorax they are frequent. The tubercle bacillus is found more often in sero-fibrinous effusions than in purulent, and when present is usually associated with members belonging to the group of cocci. It may be said that from one-half to three-quarters of all empyemata are due to pneumococci and about one-quarter to streptococci; further, in childhood pneumococci are in greater frequency, and streptococci are more common in adults than in children.

Some figures taken from a base camp in America show that in pneumococcal cases there was a mortality of 17 per cent., and in streptococcal cases of 62 per cent. Of the varieties of streptococci it seems that the *Streptococcus hæmolyticus* is the most virulent. In infected hæmothorax it was found that when streptococci were present in numbers the general condition of the patient was grave, and that pericarditis and inflammatory lesions in the opposite lung were more frequent. Blood culture, as a rule, is negative.

REACTION OF THE PLEURA.

When an empyema is opened it is usual to find that the pus-containing cavity is shut off by adhesions from the rest of the pleural cavity, and that there is a deposit of varying thickness covering the surface of parietal and pulmonary pleura, binding the lung down and preventing its expansion. Adhesions are found not only at the margin of the pus-containing cavity, but often in the cavity itself, thereby tending to divide it up into loculi, and it is these loculi which tend to get shut off and give rise to trouble sooner or later.

The deposit consists of coagulated lymph, holding in its meshes some white cells, and it is a remarkable thing how readily the lung can be made to expand when this felt-like membrane has been stripped off. Whether it is always present I am unable to say. In dealing with hæmothorax there is usually a deposit on the surface of the pleura, but I have seen the surface smooth, with only a few adhesions, and why there should be this difference I do not know. It is obvious that this is a point of

some importance. Erosions and ulceration of the visceral pleura are not uncommonly present. The lung generally shows changes from which the pleural condition has arisen secondarily. After long-standing empyema chronic interstitial changes occur about the lung.

From what has been said, it seems clear that the pleura reacts differently under different conditions. Another instance of this is noticed in some forms of streptococcal empyema, arising from *Streptococcus hæmolyticus*, in which the exudate is poured out with extreme rapidity and in large quantities, differing from pneumococcal empyema, when the exudate is poured out more slowly, and the amount is often not excessive. Further, the cells in the exudate vary. Widal and Ravaut pointed out that when the dominant cells present in an effusion are small lymphocytes the probable cause of the inflammation is the tubercle bacillus; when the dominant cells are polymorphs the probable cause is some pyogenetic micro-organism. When the cells are mainly endothelial, especially if in plaques or sheets, the effusion is usually a transudate. Although the above is a useful generalisation, it cannot be taken as accurate in every instance. In a sterile hæmothorax endothelial cells are not uncommon, and in some of these cases there is a large percentage of eosinophile cells. Another observation made is that the associated collapse of the lung is often more extensive in empyema than in a serous effusion.

We may ask, what is the result if an empyema is left alone? Death may ensue (1) from the causes that led to the empyema; (2) from gradual increase of fluid; or (3) the toxic effects of the purulent collection. The body itself usually makes an effort to get rid of the fluid, and it may rupture externally. The usual place for this to occur is in the fifth interspace in the nipple line, but the pus sometimes tracks, and the opening be anywhere from the collar-bone to the buttocks. Occasionally the empyema ruptures into some internal organ—most frequently the lung, from which it is expectorated; this probably happens with small interlobar collections, and is not an unfavourable termination. Even if the termination is a favourable one the length of time of ill-health with often considerable deformity and the effects of prolonged suppuration are serious matters, so that interference should always be undertaken.

FORMS OF TREATMENT FOR EMPYEMA.

Before considering the various measures that can be adopted it is well to keep in mind the ultimate object aimed at in any form of treatment. It is the restoration of the function of the lung, and this is achieved by the evacuation of pus and the sterilisation and obliteration of the cavity in the shortest time obtainable.

Aspiration as Treatment for Empyema.

The first procedure to consider is aspiration. We have all heard of cases of empyema that have been cured by aspiration, but they are rare, and no instance of this has come under my observation. For reasons which I think are obvious, it cannot be relied upon with any certainty. Aspiration, however, in selected cases, and prior to operation, has its use, and is sometimes necessary. For instance, when there is a great quantity of fluid in the pleural cavity and under pressure, as shown by the displacement of the mediastinum. A preliminary aspiration allows time for the lung to expand and the neighbouring organs to return to their normal position, thereby saving shock which might have proved fatal had an operation been performed prior to the withdrawal of the excess of fluid.

Again, it is possible that the patient is so ill that operative measures could not be undertaken with any hope of success. Such may be the case in the acute stage of pneumonia with consolidation of the lung on the affected side or even in the opposite side. In such a condition aspiration, repeated if necessary to tide over a critical period, is advisable. Further, in some streptococcal cases the exudate is poured into the pleural cavity with extreme rapidity. If in such a condition operation is done in the early or formative stage recent experience has shown that the mortality is higher than when the operation has been done at a later stage, after, it may be, one or more aspirations, and time has been allowed for adhesions to form and the fluid to become more purulent in character. Some form of operation, then, is advisable.

Incision Through an Intercostal Space.

The first operation to consider is an incision through an intercostal space. There are many who advocate this, and it has some advantages. It can be done readily under local anæsthesia—the tissues being infiltrated with novocaine—and the shock produced is comparatively slight. These may be weighty considerations in a patient seriously ill, but the disadvantages are important, for the surgeon is not able to form any opinion as to the extent or condition of the cavity, and the falling in of the chest wall tends to lessen the size of the opening and make drainage difficult.

There seems to be little doubt that the treatment of empyema will undergo some modifications consequent upon what has been learned in the treatment of gunshot wounds and injuries to the chest. The work on chest injuries as seen in the war may be divided roughly into two categories. In the front area treatment has to be directed to the immediate condition of the injured man, and, if possible, the prevention of sepsis, whereas at the base hospital the problems arising are mainly those of septic conditions that have arisen. It was known that an open thorax was associated with great distress and danger to the patient, and ultimately led to a condition of sepsis which frequently induced a fatal result if the primary conditions had not done so already. Good results were obtained by closing the wound in the thorax as soon after the injury as possible and aspirating the chest at short intervals afterwards. This method was applied to certain cases of hæmothorax with satisfactory results also. Then at the base it was found that certain cases of infected hæmothorax could be dealt with in a similar manner—cases in which the constitutional symptoms were mild and the infection of a non-virulent type, but virulent infections, especially when streptococci were present, had to be drained, and the chest cavity irrigated on the lines suggested by Dr. Carrel. Secondary suture was done when, as far as could be ascertained, the cavity was sterile. After suture it was necessary to aspirate, but in a short time the cavity disappeared, partly by expansion of the lung, and probably to a lesser extent from a further falling in of the chest wall.

Thorocotomy without Drainage.

In dealing with empyema the same line of treatment can be adopted, and has been done so already with success—namely, thorocotomy with immediate

closure, and thoracotomy with drainage. It will be asked in what class of case can thoracotomy with immediate closure be done? At the present time it is easier to say when it cannot be done than when it can. When severe constitutional disturbance is present, especially with streptococcic infection, drainage seems to be the best course to adopt.

The following case that came under my care is instructive:—

A man was admitted with an empyema on the right side, and gave an indefinite history of about two weeks' duration. The temperature chart showed only a moderate rise, and the pulse-rate was a very little above normal. The patient's general condition was good. The pus contained cocci. An operation was performed by Colonel Seymour Barling, who found, after removing a portion of rib, that the empyema cavity was small, and that the membrane lining it was not closely adherent. Without much difficulty the membrane was removed, and it was remarkable how the lung expanded at once and filled the cavity. The chest was closed completely. An aspirating needle was inserted through the wound on the third day, but no appreciable quantity of fluid was withdrawn. The man was evacuated convalescent.

More recently I saw a patient who had been operated upon for an empyema and the wound was sutured in layers and closed. The notes were very meagre and gave no information except that primary closure had been done. The result was quite satisfactory, and with respiratory exercises fair expansion was obtained.

Thoracotomy with Drainage.

It is necessary that the opening through the chest wall should be of such a size that a good view of the cavity be obtained. It is important to look for pockets and to make certain that the opening into the main cavity is large enough to obtain good drainage. Pockets should be looked for at the costo-diaphragmatic angle, and between the lung and the diaphragm. They may be interlobar, and sometimes a pocket is found extending forwards towards the mediastinum. The possibility of removing the deposit, so as to free the lung and allow of its expansion, should be considered. The condition of the patient, the nature of the infection, the size of the cavity, and the adherence of the membrane are matters that will have to be borne in mind. It is clear that the deposit can be removed only in few and selected cases. It may not be possible to attempt to remove the membrane, and in these circumstances incisions may be made in different directions through the false membrane. After this procedure, it is stated, expansion of the lung has been seen to take place.

In performing the operation it is well to remove a fairly large piece of rib, about 3 in. to 4 in.; then a rib separator can be inserted and a good view of the cavity obtained. A drainage-tube of wide bore should be inserted so that its fenestrated end just passes into the pleural cavity, and it must be fixed in position so that there is no entrance of air into or leakage from the cavity round the circumference of the tube. The tube itself ought to be about 1 ft. in length, and after being fixed in position is clamped near its free end. After the patient is placed in bed another tube is fixed into the free end, most conveniently by a glass connexion, and the other end placed under some antiseptic solution in a bottle placed by the side of the bed. The clamp is then removed.

There are many advantages in this method: the drainage is satisfactory; there is very little disturbance of the patient, for the dressings are kept dry and need not be changed for one or two days. The risk of further infection from the skin round the wound is lessened. Moreover, the wound being air-tight there is a possibility of a negative pressure in the empyema cavity, and the expansion of the lung is thus aided. It is probable that this does not last for very long, but even so it may be of considerable assistance. About the third day it will be noticed that the tube has worked loose, and it should then be removed and the cavity irrigated.

After-treatment by Irrigation.

Irrigation of the chest cavity is said to be a dangerous proceeding, but it is very difficult to get any definite reasons why this should be so. A certain number of deaths have been reported for which no obvious cause could be found post mortem. Convulsions have been observed, also syncope, not always fatal, followed at times by a temporary palsy. Capps and Lewis, quoted by Horder, found that in dogs in whom an empyema had been artificially produced, washing out the pleural cavity led to prolonged depressor effects upon the arterial circulation. They found that artificial respiration was the best means to overcome this effect, and was more efficacious than the injection of adrenalin.

In the presence of even a suspected bronchial fistula irrigation should be avoided. On more than one occasion I have had to stop it owing to the fits of coughing that followed, and the patient tasting eusol in his mouth. In another patient a feeling of faintness was the cause, and for this reason it was omitted.

With due care I believe that irrigation is beneficial. There should be free drainage and the avoidance of any large quantity of fluid in the pleural cavity at one time, and I think it inadvisable to wash out the cavity at the primary operation. Carrel-Dakin solution and eusol appear to be the best irrigants, for they exert a solvent action on the exudate. The most satisfactory method is to pass a Carrel tube with the required number of holes well into the cavity, and to allow the fluid to flow gently through it. In a certain number of cases, especially those of a comparatively mild infection, a daily washing out may prove sufficient to sterilise the cavity and allow of its closure. I have been able to remove the drainage-tube in one week, and to allow the wound to close with good results. In virulent infections something more may have to be done.

I believe it was Carrel himself who was the first to introduce his tubes into the pleural cavity in cases of severe infected hæmothorax for the purpose of frequent irrigation. When sterilisation is complete the opening in the chest wall is closed and aspiration done at intervals of a few days. This method was widely adopted and gave very satisfactory results, but I have seen instances where it was not successful, and when sterilisation could not be obtained. This may possibly have been the result of faulty technique.

The application of Carrel tubes to the chest cavity is beset with many difficulties of a practical nature. In the first place it is desirable to have as clear a mental picture as possible of the size and extent of the cavity, especially as to the position of any pockets that may be present. With such a picture the tubes can be placed so that the whole of the cavity can be sprayed with the solution. Further, it is often advisable to X-ray the chest to see that the tubes are in their proper places, and it may be necessary to pass wire through the tubes to stiffen

them and keep them there. The tubes must be of sufficient length, so that they are clear of the dressings, and the patient must not be disturbed more than is necessary. The dressings themselves soon get soaked, and it is remarkable how little this seems to disturb the patient.

The time when the drainage or Carrel tubes can be taken out is often a difficult matter to decide. The temperature usually comes to normal when drainage is satisfactory, although the pulse often takes a little longer to reach the usual rate.

At the time of the operations a smear preparation should be made of the pus, and the average number of micro-organisms in three fields under the microscope should be noted. When the tube is removed another smear should be made and the count of micro-organisms recorded. From henceforth this should be done every three or four days until suture standard is reached. This method is not always accurate from the scientific point of view, but taken in conjunction with the pulse-rate and temperature is of help in forming some idea of the progress made by the patient and the time when the drainage-tube may be left out permanently. It is to the smears that we have to look for the main source of guidance. If smears taken from within the cavity are up to suture standard on three consecutive occasions, then I think the wound should be allowed to close, or if large, sewn up. If there is a cavity left of any size, then an aspirating needle can be passed through the wound without disturbing the patient, and any fluid withdrawn.

OTHER FORMS OF AFTER-TREATMENT.

The recommendations of Tuffier and Depage are of great interest. They advocate in pneumococcal empyema that after the evacuation of the pus the membrane should be removed and the chest cavity closed. In cases of non-pneumococcal suppurative pleurisy after opening the chest wall and allowing the pus to escape, they recommend that Carrel tubes should be inserted into all the recesses of the cavity, and irrigation employed until sterilisation is complete. When the cavity is sterile an attempt is to be made to remove the false membranes, starting at the point of junction of the chest wall and the lung. The lung is seen to expand with decortication, and it should thus be as complete as possible and the wound sewn up. Such is a very brief outline of the main points of their recommendations.

They consider that the thoracic cage is no longer to be placed before the lung in importance, and the lung must be considered before the chest wall. With this treatment the lung resumes its normal activity, whereas in the old treatment everything tended to destroy it. Further, the outlook for the functional future of the patient is better.

Attention should be given to the skin in the immediate neighbourhood of the wound. At the daily dressing it should be cleansed, especially at its edge, and wiped with some antiseptic, for which purpose chloramine soap is suitable. A strip of bandage soaked in vaseline, the whole being sterile, is then placed on the skin with its edge in close proximity to that of the wound. The advantage of this is that further contamination is avoided, also irritation of the skin from the discharge; especially is this necessary if Carrel tubes are in the cavity and constant irrigation is employed.

One more point upon which I should like to dwell is that of breathing exercises for the expansion of the lung. They may be started soon after the primary operation, and at first should be very simple, gradually becoming more complex as the patient improves. The blowing of bottles and bubbles and bladders just when and how the patient pleases is of little use. The exercises ought to be done systematically and when possible under personal supervision. At the same time the interest and coöperation of the patient should be enlisted. With these conditions the most satisfactory results can be obtained.

References.

System of Medicine, Allbutt and Rolleston, vol. v., Pleurisy (Horder). Ibid., Osler and McCrae, vol iii., Pleuritis (Lord).
Journal of Surgery, Gynæcology, and Obstetrics, vol. xxviii., No. 4, April, 1919.
War Medicine (American Red Cross Society in France), vol. ii., Nos. 6 and 7.

Inaugural Address

[ABRIDGED]

ON THE

TEACHING OF PATHOLOGY.

Delivered before the Section of Pathology, Royal Academy of Medicine in Ireland, on Oct. 31st, 1919,

BY THOMAS T. O'FARRELL, F.R.C.S. IREL., D.P.H.,

PRESIDENT, SECTION OF PATHOLOGY, ROYAL ACADEMY OF MEDICINE IN IRELAND; FIRST ASSISTANT IN PATHOLOGY, UNIVERSITY COLLEGE, DUBLIN, N.U.I.; PATHOLOGIST TO ST. VINCENT'S HOSPITAL, ETC.

GENTLEMEN,—As the subject of educational reform has recently been a source of fruitful discussion in many teaching centres it occurred to me that a consideration of the present position of the teaching of pathology and bacteriology might be a profitable one, and might prove of interest to the Section.

The Student.

Before considering the teaching of pathology and bacteriology it might be well to consider the outlook of the student we have to teach, who is, as a rule, a sound and even an enthusiastic worker. The primary object of the average student is to obtain his qualification, and notwithstanding the abuse which has been levelled at examinations there must be certain tests set up to determine whether he is fit for qualification or not. I am not averse to the system of examinations, because I consider that even if they are not true tests of proficiency, they are an incentive to work, and they direct the student along the course he is expected to read. We should remember in framing examination questions that the student is recommended to read certain books, and realise that he may naturally resent a question upon recent work which has not yet found its way into the text-books.

The Dublin student, at any rate, has set up a certain standard for a teacher, and this is expressed by the statement, "He gives good value" or "He does not give good value." We are happy in having many teachers in our schools and hospitals whose very presence, facility of diction, and enthusiastic exposition are in themselves an attraction to any type of student; but the majority of teachers stand or fall in the estimation of students by the test as to whether they give "good value" and "not good value," from the examination point of view. So much so is this the case, that the lectures of even a great teacher may be described as "very interesting but it (the subject) will not be asked." In other words, if a

teacher deviates from the standand text-book, to give a discourse on recent work, his teaching will not be popular. This condition of affairs is not satisfactory, because it kills the spirit of advance.

Current Medical Journals.

Examinations in some form will always be with us, but the spirit of advance should not be discouraged. One immediate improvement could be effected if the teacher accompanies his usual advice on the choice of text-books with a recommendation to read a current medical journal. The student would thus acquire the habit of reading current work, and would also take more lively interest in his subjects. The new point of view encourages him to bring problems to his teacher and at the same time react beneficially on that teacher. It would be an indication to him as to how research work is carried out, and might inspire him with ideas.

The question of expense might be raised, but this does not arise, as the journals of the kind referred to are easy of access in our libraries. The other possible objection is perhaps a more serious one—namely, that articles in journals are only the opinion of individuals and are not necessarily orthodox. This is true to a certain extent. It would appear to me, however, that a reading of original ideas would act as an incentive to the looking up of the orthodox teaching on the subject, and would lead to useful discussions. As the student looks to his teacher and indirectly to his examiner for advice, I think an individual journal should be selected and the student notified that a question arising out of articles in numbers of the current year will be asked at the examination. Such a question might be optional for a pass man, but the additional marks for a knowledge of current literature should be given to an honours student. The idea is not new, and it has been brought with success into many D.P.H. examinations.

Relation of Pathology to Clinical Work.

Recent discussions upon teaching outside Ireland appear to indicate that in some places the teaching of pathology has become too detached from its proper clinical application, and that the subject has become more of academic interest than of practical value to the future general practitioner. This opinion, so far, has not gained much ground in this country, largely, I think, because the teachers of pathology in our medical schools in the majority of instances are also pathologists to clinical hospitals, consequently the natural tendency of the teaching is to make the work in the medical school largely conform to hospital requirements. There are, however, certain conditions which predispose to the want of coördination between the clinical and pathological teaching. One example of this is the bad attendance of clinicians at the meetings of our Section; another is the anomalous position of the hospital pathologist, which has now become an anachronism. With regard to the remarks I have to make on the position of the hospital pathologist, I wish it to be understood that I am not alluding to any hospital in particular, and above all not to the one to which I have the honour to be attached, and where I have always met with the greatest consideration, assistance, and encouragement.

Our work has undergone a complete revolution in recent years. The pure morbid anatomy of bygone days has been extraordinarily modified in the direction of clinical or live pathology. As an example, the preparation of vaccines, purely therapeutic agents, has become a routine. The position of the pathologist is, however, peculiar and antiquated. In the majority of instances he is not an official member of the teaching board of studies—that is to say, he is only unofficially consulted as to the arrangement of the curriculum. He has not the status which would enable him to give or receive advice on the general conduct of hospital teaching, and is excluded from giving any opinion as to the fitness of any candidate for appointment on the junior staff.

I wish to make it perfectly clear to any clinicians who are here to-night that I do not intend the pathologist to usurp the position of the clinical man. The pathologist is indebted to the clinician for practically all his material—tumours removed by operation, puncture fluid, and the like. It would be bad policy, if not bad taste, to interfere with him! But I would like to recommend, in view of modern requirements, that the matter of the status of the pathologist should be given consideration.

Improved Methods in the Teaching of Pathology.

In many centres teaching methods are under consideration, both in these countries and in America, and many books have appeared on the subject. A recent general survey is to be found in "The Future of Medicine," by Sir James Mackenzie. To Sir George Newman we are indebted for two important memoranda, one on "Medical Education" (1918) and the other on "Preventive Medicine" (1919). A monumental work has recently been published by the Edinburgh Pathological Club. The opinions of various experienced teachers in all branches of medicine were asked, and a report embodying their recommendations was drawn up and published in book form. A careful perusal of this work will fully repay anyone who is concerned in the teaching of medicine.

As regards pathology and bacteriology, the following recommendations appear to me to be important: 1. Formal lectures should be retained, as they indicate to the student the course he should follow. 2. The modern view, that pathology is a study of the living as well as of the dead, should be reflected in the teaching. 3. Clinical and pathological teachers should meet on committees so as to coördinate the two subjects.

It is suggested that the first two lines upon which recommendations may be best achieved should be: Firstly, the teaching of clinical pathology—i.e., instruction in the collection of material, methods of examination, and the interpretation of the findings. Secondly, the teaching of "the Unity of Disease." The student should be given an opportunity of following up cases from beginning to end, and should be instructed to correlate clinical signs and symptoms during life with the conditions found after death. Thirdly, the establishment of pathological clerkships in all hospitals.

As regards the teaching of clinical pathology in Dublin, one college has already established a practical pathology class for fourth-year men. This includes the collection of material, the various methods of examination and the interpretation of results, and the diagnosis of such diseases as diphtheria, typhoid, and syphilis. In another college great attention is paid to post-mortem work. In some hospitals pathological clerks have been appointed.

I should like to draw your attention to the method adopted by Professor Lorrain Smith in the study of autopsies. The student is required to

work out a report on the pathology of six cases. He is supplied with the details of the clinical record; he makes detailed notes at the post-mortem examination, and is also required to examine the affected organs microscopically. After this he writes a review dealing with all the points of pathological interest which a study of the case reveals. The report and slides are examined by the staff and marks are allowed, which are included in the total which determines the class honours. It is claimed for this method that the student grasps the unity of disease from the first—a claim which I think is well justified. This method has one possible drawback. As the student is said to be provided with the clinical records of the case, it is possible that he may not have seen the case during life, and thus has no vivid impression of the clinical condition. In addition, to keep the idea of "live" pathology uppermost, I think the student should also be required to furnish an account of living cases in which pathological examinations had been made, or in which tissues, removed by operation, had been examined.

In my own experience, the material available from operations and "live" cases is far greater than that obtainable from autopsies, so that there would be little difficulty in providing the student with the necessary means of drawing up such reports. In my opinion, such reports should be prepared by the man in his fifth year. On account of his work in the fourth year he will have a good ground-work of clinical pathology; being a senior man he will be in a better position to understand the clinical findings, and it will have the effect of keeping before his mind, up to the time of qualification, the useful application of pathological methods to the actual practice of medicine. An instructive feature might be added to these reports, if the student who composed them submitted his results, as a paper, before the Students' Medical Society of the Medical School. It would supply material for the society, ensure that the work of the society was done by students, and be an example to junior members.

Before leaving this part of the subject I should like to draw your attention to the fact that an enormous amount of material for the teaching of morbid anatomy is not at present made available, I refer to the source of supply which is present in the union hospitals, hospital for incurables, asylums, and such-like institutions. When the whole question of the teaching of pathology comes to be considered by the various colleges, an attempt should be made to secure an addition to their material from these sources.

Specialisation.

In the course of investigations into the problems of teaching in America, stress has been laid upon the modern tendency to specialisation. Men specialise either because they like the work or because they see an opening in that particular field. Their special qualifications are the outcome of post-graduate work done in preparation for certain examinations, such as Fellowships, Memberships, diplomas, or baccalaureates. If they have sufficient means they may go abroad for a special course of study.

The experience of one writer in America, Harris, speaking of the School of Oto-laryngology, Camp Greenleaf, Georgia (where a course of instruction was organised for specialisation), gives a very gloomy opinion as to the qualification of specialists on the pathological side of their subject. He says that, "although they were men who had practised the speciality for a number of years, with few exceptions, they showed a woeful want of knowledge of its fundamentals. Pathology and bacteriology did not enter into their field of knowledge." I do not mean to imply that similar conditions apply here, but I think that, so far as we are concerned, the student ought to have certain opportunities for realising that our subjects are an essential part of their equipment for any specialised work after qualification. Facilities should be obtained for the laying down of a sound scientific foundation for future specialisation. There are already, in one of our medical schools, special classes given in immunology and the diseases of ductless glands. The giving of special classes, however, in subjects such as gynæcological pathology, pathology of the skin, &c., would throw too much work upon the ordinary teaching staff of a medical school, but if these classes were conducted by extra-mural teachers much benefit would accrue.

I would suggest that men with special qualifications, not on the teaching staff of the school (possibly from another college), should from time to time be invited to give five or more lectures or classes on their particular speciality. All the pathological material available in the laboratory should be placed at their disposal. The fees would not weigh heavily upon the school, and the course would be of mutual benefit to the students of the school and to the individual giving the lectures. The courses should be voluntary, to ensure keen, if small, classes, and if they were open to medical men outside the school they would probably be largely attended. I am convinced that the matter is worthy of consideration and trial.

Conclusions.

To summarise my conclusions they are:—

(1) Examinations and teaching should be so modified as to conform to modern ideas. The reading of a current medical journal should be part of the programme.

(2) In view of the close association of pathology with clinical work the hospital pathologist should be in a position to discuss teaching methods on the same footing as clinicians. Round table conferences should be held from time to time of all teachers in medical subjects.

(3) The following alterations are suggested in the curriculum: (*a*) The third-year men to receive the ordinary courses in general and special pathology, bacteriology, and practical work. (*b*) The fourth-year men to attend a practical course in clinical pathology. They shall also be required to report upon six autopsy cases, not omitting the clinical history. The results of the post-mortem, together with histological findings and other data, to be drawn up as a report. Marks to be given and included in the totals at examinations. (*c*) The fifth-year men to report on a given number of "live" cases, giving the clinical findings and detailing the application of the clinical pathological methods. In surgical cases to give an account of the histological findings in tissue removed by operation. The students to be encouraged to bring their work before students' medical societies. (*d*) A system of lectures, demonstrations, or classes in practical work to be instituted in special subjects. These to be conducted by extra-mural teachers in consultation with the director of the department.

(Continued at foot of next page.)

THE NEED FOR SCHOOLS OF PSYCHIATRY.

BY C. HUBERT BOND, F.R.C.P. LOND.,
COMMISSIONER OF THE BOARD OF CONTROL AND EMERITUS LECTURER IN PSYCHIATRY AT MIDDLESEX HOSPITAL.

IN their fourth annual report, published in 1918, the Board of Control drew attention—not for the first time, but in more extended form than hitherto—to deficiencies in the present arrangements for the treatment of persons suffering from mental disorder, especially in its incipient and early stages; to the insufficiency of attention paid at medical schools to this important branch of medical science, with its consequent ill-effects both to patients and to the medical profession; and to the absence of any special qualification in psychiatry as a requirement for the higher medical posts in public institutions for the insane, comparable to that demanded of medical officers of health in areas with a population of over 50,000.

That these deficiencies could not be made good without amendment of the existing law was recognised, and accordingly a series of recommendations in this direction were included in the report. As at least some of these are *sub judice*, it is not proposed on this occasion to refer to them nor to the establishment of out-patient clinics and beds for mental cases, except in so far as they are connected with schools of psychiatry.

It is, however, submitted that such clinics, whether as independent units or, preferably, closely affiliated with general hospitals, should be regarded as an indispensable part of the clinical facilities of every medical school.

The Establishment and Functions of Mental Clinics.

The reluctance of general hospitals to shoulder this additional burden, quite apart from financial considerations, is not difficult to understand, and, indeed, commands sympathy. But the significance of the mental element in other diseases than those mainly of the nervous system, even in surgical affections, is happily receiving increasing attention; and it is to be hoped, now that the benefit of team work is becoming appreciated, that soon no general hospital staff will be deemed complete without a physician possessing expert knowledge in psychiatry. Consistency requires that mental experts in charge of institutions for the insane should have facilities for consultation with experts in other branches—not merely in emergency, but as part of the routine consideration of the recent cases at least, and others in need of active treatment.

A strong argument in favour of the establishment of clinics for mental cases and for their affiliation to general hospitals is the reluctance of sufferers from premonitory and early symptoms of mental breakdown either to present themselves for advice at, or submit themselves to treatment in, a hospital, which, *res ipsa loquitur*, labels the patient as the subject of a nervous or mental ailment. Perhaps some day, when our profession is more skilled in the differential diagnosis and prognosis of the forms of mental disorder, an end will be made of this prejudice; at present it is too often stimulated by attempts to draw minatory inferences from misleading and ill-digested statistics of heredity. Till that day arrives, the most promising hope of breaking what in reality is a vicious circle of obstacles to treatment, and to advancement of knowledge in the subject, is an invitation and welcome from general hospitals to all persons so suffering, coupled with adequate arrangements, reasonably limited as to extent, for the in-patient treatment of severer but recoverable cases. There is abundant evidence that such persons, either on their own initiative or on the advice of their friends, are willing to go for treatment to a general hospital. Unfortunately the structural and other needs of a mental clinic practically demand that it should be somewhat, if not entirely, an entity. Probably the most promising method is to take advantage of the policy proposed by several general hospitals towards meeting their needs for extension; instead of attempting to enlarge the existing structure, arrangements are made to treat certain types of patients in separate units erected on a site where land is liberally available, their administration forming part of that of the parent building with which their identity is maintained in name also. Clearly, the mental clinic, as respects in-patient treatment, should form one of these units. To this effect definite proposals have been made and schemes are in preparation to which a more detailed reference might be premature.

I should like to protest against a readiness on the part of some of those who welcome the advent of mental clinics to relegate existing institutions for the insane to the rôle of receiving houses for the care and nursing of irrecoverable cases; such a divorce from incentive to treat to recovery would cause these institutions to be pervaded with a most prejudicial feeling of hopelessness. It is scarcely necessary to labour the point, as it is most unlikely that the clinics, whether as parts of medical schools or scattered more widely, will ever be able to meet the needs of all recent cases requiring asylum treatment and of all those that are recoverable.

On the other hand, these clinics for mental cases should aim at fulfilling three main functions, and should provide—

1. Therapeutic facilities (*a*) for a certain proportion of recent and recoverable cases (whether certifiable or not), and (*b*) in a section of the general out-patient department, for incipient, uncertifiable cases and for certifiable cases in early stages.

2. Better educational facilities during the medical curriculum. These facilities, however, would be incomplete without access to the clinical material of the neighbouring public asylum, between which and any school of psychiatry it is most important that there should be a close link.

3. A centre for both laboratory and clinical research and post-graduate study.

If these provisions are feasible they will ensure success to mental clinics. Without their establishment and without their affiliation to general

(*Continued from previous page.*)

References.—1. Æquanimitas, W. Osler, 1906. 2. An Enquiry into the Medical Curriculum by the Edinburgh Pathological Club, 1919 (W. Green and Son). 3. An Introduction to the History of Medicine, F. H. Garrison, 1917. 4. An Outline of the Practice of Preventive Medicine, Sir George Newman, H.M. Stationery Office, 1919 [Cmd. 363]. 5. History of Epidemic Pestilences in Ireland, Census of Ireland, 1851. 6. History of the Medical Teaching in Trinity College, Dublin, and of the School of Physic in Ireland, T. P. C. Kirkpatrick, 1912. 7. History of the Royal College of Surgeons in Ireland and of the Irish Schools of Medicine, Sir Charles A. Cameron, 1916. 8. Manners and Customs of the Ancient Irish, E. O'Curry. 9. Medical and Philosophical Memoires (Manuscript), 1756-1784, Lib. R.C.P.I. 10. Plea for a Standardised Course of Instruction, T. J. Harris, Jour. Amer. Med. Ass., August 16th, 1919; also v. ibid., August 2nd and 23rd, 1919. 11. Some Notes on Medical Education in England, Sir George Newman, H.M. Stationery Office, 1918 [Cd. 9124]. 12. The French Medical Curriculum, D. Parry, THE LANCET, 1919, ii., 658. 13. The Future of Medicine, Sir James Mackenzie (Henry Frowde), 1919.

hospitals, a number of mentally ailing persons will continue, untreated, to carry on their daily tasks to their own dissatisfaction and to the detriment of themselves and society.

Establishment of Diplomas of Psychiatry.

Lieutenant-Colonel D. G. Thomson[1] has powerfully advocated a series of measures, including the establishment of diplomas, to combat the absence in this country of an adequate scheme of instruction in the institutes and practice of psychiatry. The movement that ensued is so closely associated with his name that it is only with diffidence that another can take up its threads; and, though his goodwill has been secured in advance, my intervention is only the result of representations that now, a decade after the initiation of his proposals, a stock-taking of progress is due, seeing that the time is ripe for further suggestions.

It will also be recalled that Colonel Thomson's paper, and a resolution[2] which he moved at the annual meeting in the same year, led to the appointment of a subcommittee[3] of the Education Committee to consider the matter in detail; and that ultimately a circular letter,[4] signed by the then president, the late Dr. Mercier, was forwarded to each of the universities and other medical examining bodies in the United Kingdom. In making their recommendations, the association formulated a carefully considered syllabus of instructional courses which, it was suggested, should lead up to the establishment of diplomas in psychiatry.

Within the ensuing two years gratifying action was taken by five of the universities—Manchester, Leeds, Edinburgh, Cambridge, and Durham, each of which passed regulations for a diploma after attendance on approved courses and examination in prescribed subjects. A perusal of these five sets of regulations shows that the Association's suggestions have been largely adopted; but, though they present many points of agreement, the courses in the various universities have many differences. A brief summary of their similarities and differences is herewith appended in the hope that it may be of some service. Even if the immediate results of the action of these universities have been meagre and disappointing—for less than a score of candidates have taken these diplomas—any feeling of discouragement would be unjustified. In the first place the war caused a partial, if not entire, cessation of the qualifying courses, and swept into the naval and military services wellnigh all the men who might have been tempted to proceed to one of these diplomas; and secondly, the interval (from two to four years) between their institution and the outbreak of war brought into prominence certain obstacles.

There are difficulties connected with the further study of asylum physicians, such as situation of the institution, need for study-leave, uncertainty of prospects, &c., which merit the attention of both central and local authorities. My colleagues, ever since the institution of diplomas in psychiatry, have watched the movement with interest and sympathy, and, being impressed with its importance, the Board of Control has included in the recommendations already referred to one to the effect that the possession of a diploma in mental diseases should ultimately be obligatory upon the holders of the higher medical posts on the staffs of institutions for the insane. In the meantime and in the absence of any such enactment, they have given further careful consideration to the matter, and, feeling that the remedy for at least some of the principal difficulties is within the discretional powers of visiting committees, the Board contemplate the issue of a circular letter to those bodies. It would be improper to anticipate the details of that letter; but for the purposes of my argument let us assume all circumstantial difficulties can be, and, with mutual goodwill, will be removed.

Scope of the Existing Diplomas.

Upon the scope of the diplomas, especially as at least one of them is under revision, it is desired to raise the following points for consideration:—

1. As to their description, three of them are termed "— in Psychological Medicine," the other two being "— in Psychiatry." It is doubtful if the latter term can now be deemed sufficiently wide in its ambit; the former is probably to be preferred, and, moreover, it lends itself to the use of the letters D.P.M. by way of abbreviation—a triviality, perhaps, but not without importance.

2. It seems a pity that each university does not lay down a minimum period, subsequent to obtaining a registrable qualification, before which the examination cannot be completed—e.g., two years.

3. It is highly desirable that the regulations and syllabus should plainly indicate the term or terms during which each course (whether systematic or practical) is available, with the days and hours sufficiently set out to enable candidates to ascertain their ability to attend.

4. A clear statement would be appreciated as to the minimum extent to which the whole curriculum for the diploma must be attended at the university in question. This can be expressed as so many out of the total number of terms required for the full curriculum, or as so many courses out of the total number of subjects. Two of the five universities do not, apparently, insist on any local attendance. If criticism is permissible, this latitude, though not without its convenience in existing circumstances, is regrettable, as the association of the university's name invites the presumption that at least some important share of the diplomate's knowledge is the fruit of a school of thought with traditions of its own. Should a diploma in psychological medicine be ultimately obtainable at all our universities, and especially should their intramural arrangements permit of the development of a school of psychiatry at each, perhaps this view will prevail.

5. Another point upon which more precise information would be helpful is the matter of fees for instructional courses. The fee for each course should be stated, and it would be advantageous were a composition fee quoted for the courses of Part I. of the examination, another for Part II., and a third for both parts.

6. The examination for each of the five diplomas is divided into two parts, which together comprise subjects which, with some variation, fall under the following eight heads: (*a*) Development and anatomy of the nervous system; (*b*) physiology, histology, and chemistry of the nervous system; (*c*) pathology of the brain and nervous system with post-mortem room and laboratory technique, including cytology of the blood and cerebro-spinal

[1] Journal of Mental Science, vol. liv., 1908, p. 550.
[2] Ibid., pp. 791-3.
[3] Ibid., vol. lv., 1909, p. 757; and vol. lvi., 1910, p. 374.
[4] Ibid., p. 373.

fluid; (*d*) bacteriology; (*e*) psychology, systematic and experimental; (*f*) neurology; (*g*) psychiatry; and (*h*) clinical psychiatry. It is suggested that in each of the diplomas Part II. should be reserved for the strictly professional subjects, and that it should be passed as a whole, but that permission should be accorded for candidates to present themselves in the subjects of Part I. separately, and also to be exempted from any subject of Part. I. in which they have previously passed an examination of not less standard and scope. For example, the latter concession might apply, as regards the anatomy and physiology of the nervous system, to those who have passed the Primary Examination for the Fellowship of the Royal College of Surgeons of England; as regards bacteriology (where included), to those who possess a degree or diploma in public health; and as regards psychology—which, under the suggestion as to the scope of Part. II. would fall into Part I.—to graduates in arts or science for whose degree psychology has formed a subject. It is further suggested as regards Part. II. that, besides psychiatry and neurology, the time has come when the importance of psycho-pathology, the psycho-neuroses, and psycho-therapy demands the inclusion of these matters in this curriculum and examination. This view is supported by a commentary by Professor T. H. Pear, of Manchester, lately made to teachers in psychiatry, and by my former colleague, Dr. Bernard Hart, in a communication in connexion with an inquiry into "The Training of the Student of Medicine" carried out by the Edinburgh Pathological Club. Its adoption should carry with it recognition of clinical experience of the psycho-neuroses, either as an extra or in lieu of, say, three months of the time prescribed for clinical instruction in psychiatry where that period extends to not less than a year; such recognition has already been sanctioned at one of the universities. This opportunity is also taken to suggest the strong desirability of specifying in Part II. "The Relation of Psychiatry to General and Preventive Medicine" as a distinct subhead.

7. Lastly, the diplomas and instructional courses should be as freely accessible to medical women as to men. Mention is only made of the point by way of emphasising the useful sphere open to women as asylum physicians.

Importance of Coöperation.

It would, however, be a mistake to dwell too insistently upon the possession of this or that diploma; it is but a hall-mark. The really important result to be attained is that, based upon a previous thoroughly sound knowledge of general medicine, a prescribed course of instruction shall have been followed, and that there shall have been acquisition of knowledge, not merely of facts memorised, but of principles.

Our goal, therefore, should by no means be limited to repetitions of courses of instruction leading to a diploma at certain or at each of the universities. Rather should we urge that the importance of the whole subject of mental health justifies and calls for, not merely a colleagual relationship between the several teachers in our diplomate's curriculum—some of whom may possibly belong to other faculties in the university than that of medicine—but a partnership so manifest as to deserve the name of School of Psychiatry; and differences in tradition between such schools will be all to the good.

THE TREATMENT OF MUSCLES BY ARTIFICIAL STIMULATION.[1]

BY G. COOPER, B.A., M.D. BELF.,
MAJOR, R.A.M.C. (T.C.); I/C. ELECTRO-THERAPEUTIC DEPARTMENTS NETLEY.

THE subject chosen for the title of this paper is one which I feel is of general interest to all medical men who have had under their care the treatment of patients injured in the war. Practically every wound has resulted in an injury of some degree to one or more muscle groups, and long after inflammation has subsided and healing has taken place there remain a disability and loss of function in the affected limb which are to a large extent due to pathological changes in the muscles. The treatment of such cases is generally handed over to the department of physio-therapy for treatment by massage and electricity, and too often such treatment is carried out in a mechanical manner without proper knowledge of the rationale of the methods to be adopted for the restoration of the muscle to its normal condition and function.

The injuries sustained by such muscles may be classified according to their ætiology under two heads:—

(A) (1) Injury of the muscle due to direct trauma. (2) Injury due to the action of toxins on the muscle fibre.

(B) Injury due to suspension of the function of the muscle.

Trauma may result in the loss of muscle substance and its replacement by fibrous tissue, or in an injury to its nerve-supply. Such loss generally results in a state of fibrous contracture or in a loss of contractile power if the nerve-supply is involved. Toxins destroy the protoplasm of the cells, fibroblasts develop, and fibrous tissue replaces the muscle fibres. The injury caused to muscles by these two factors, trauma and toxæmia, has been very considerable, but it is insignificant when compared with the widespread injury that has been brought by interference with the normal functions of muscles and their consequent atrophy. A single muscle may be directly affected by trauma, but this injury may interfere with the normal action of all the other muscles of the limb for a considerable period and thus give rise to serious pathological changes in the musculature of the limb.

As we have seen, the type of muscular atrophy known as disuse atrophy is of widespread distribution, and if we exclude the dystrophies and also injuries due to toxins and to direct trauma, it is reasonable to classify all atrophied muscles under one of the following three heads, according to the factors that have brought about their loss of function. (1) Muscles that have lost the power of voluntary contraction through lesions of the lower motor neurone (these have been largely caused by injuries of the peripheral nerves). (2) Muscles whose normal contraction has been suspended by immobilisation of the neighbouring joints—a condition commonly seen in limbs to which splints have been applied. (3) Muscles whose contraction has been reflexly inhibited because their action causes pain in the joints whose movement they control, as, for example, wasting of the quadriceps in arthritis of the knee.

The dictum laid down by Abernethy that diseased parts should be kept at rest is in accordance with

[1] Paper read at a meeting of the Electro-Therapeutic Section of the Royal Society of Medicine on Nov. 21st, 1919.

the principles of nature, and it is obviously necessary to immobilise joints to secure proper fixation of the fragments of a fractured bone or to limit the spread of acute inflammation; but the muscles and the fibrous structures of the limb concerned, have frequently been involved in the most disastrous results from the application of this principle of rest. Muscles have wasted or undergone fibrous degeneration, and the movements of the joints have been restricted by contraction of the adjacent fibrous tissues.

It is an interesting observation to note that the degree of atrophy of the tissues that follows suspension of function in the locomotor apparatus has no parallel in any of the other systems of the body, where temporary suspension of function to the same extent is not possible.

The Cause of Muscular Atrophy and its Prevention and Cure.

Some reference to the physiology of muscle is necessary in order to attempt to explain the cause of atrophy and to justify the methods adopted both for prevention and cure of muscular degeneration. A muscle fibre contracts either in response to a nerve impulse along the normal channels, or it may respond to direct stimulation in virtue of its irritability. Muscles will contract feebly when pinched, and certain chemicals will provoke a response when directly applied to the exposed muscles. So far as can be ascertained there is no difference in the nature of contraction or in the chemical changes produced by a normal nerve impulse and in that brought about by electrical or other stimulation. The irritability of a muscle fibre would appear to be somewhat akin to the irritability of the amœba, which possesses to a feeble extent the power of response to direct stimulation, and the muscle cell might be regarded as a highly specialised cell of the amœba type, specially developed for contractile purposes and peculiarly responsive to stimuli of a nervous type. Curari, as is well known, places a block at the nerve ending, and stimuli applied to a motor nerve so affected are powerless to produce contraction of a muscle. Stimuli applied directly to the muscle can, however, bring about a contraction. Muscle contraction is therefore a response to an external stimulus, and the questions of loss of contractile power and of change in the muscle substance are closely associated with one another and with the causes operating to bring about loss of function in the muscle fibre. The health and condition of any cell is known to be closely associated with its function; this would appear to be especially true with regard to muscle tissue, the atrophy that takes place being a direct result of its suspension of function. The nutrition of a muscle fibre would appear to be determined by the exchange that takes place between the muscle plasma and the surrounding lymph during the acts of contraction and relaxation, the interchange thus being dependent on its exercise of function.

In response to an external stimulus certain very complex changes take place in a muscle fibre. During contraction lactic acid is formed, but there is no consumption of O_2 or evolution of CO_2 at this stage. The process of *relaxation* is, however, accompanied by an oxidation of certain carbohydrates; oxygen is consumed and CO_2 produced. The lactic acid disappears but not by oxidation; it appears to play a very important part in the contractile process, but the nature of its action is not definitely understood. The actual contraction and subsequent relaxation are very difficult to explain. As a metal rod lengthens when heated and shortens again on cooling, because different degrees of temperature alter the equilibrium of its atoms and produce a reaction of its elastic forces, so the molecular arrangement differs in the muscle according as it is at rest or excited, and its external form differs accordingly. The active muscle is short and thick, the inactive long and thin, and in suddenly passing from one state to the other the muscle contracts or expands, not against an inherent elasticity, but by an elastic action, in order to assume the natural form of *equilibrium* which corresponds to its active or its inactive state. (Weber.)

The carbohydrates demanded by the process of oxidation are undoubtedly drawn from the surrounding lymph, through the limiting membrane of the muscle fibrils, and the expulsion of CO_2 and other metabolites must take place through the same channel.

Certain functional states of the cells are known to be accompanied by increased permeability of the cell membrane, and there is conclusive evidence that the cell membrane is rendered more permeable during excitation of the cell. McClendon found in excited muscle an increase of electrical conductivity—an index of increased permeability to ions. This means that the cell membrane becomes permeable to ions to which it was impermeable while unexcited—in other words, it ceases to be polarised. Siebeck's discovery that potassium chloride enters more rapidly into excited muscles than into resting ones also indicates increased permeability during functional activity. Conversely, Lillie has shown that all agents which cause increased permeability of the cell membrane act in an exciting manner on the cell.

The essential characteristic of life is incessant change, and the maintenance of health and condition of the muscle fibre appears to be closely associated with the acts of contraction and relaxation, interchange with the surrounding lymph taking place during these acts. It is therefore a reasonable line of treatment for muscles which have undergone atrophy to seek to bring about a restoration of their condition by *provoking contractions in the affected fibres*. These may, therefore, be either in response to normal nervous stimuli or evoked by artificial stimulation.

The restoration of muscles by active contraction can only be referred to briefly in this paper. The development of muscles by exercise would appear to be due to at least two factors: (1) Increase of size and tone of muscle fibres taking part. (2) The "calling up" of a large number of muscle fibres of an embryonic or of a dormant type, of which there is considerable proportion in every muscle. The observation has been made that muscles are overwired (Souttar)—that is, that the nerve trunk contains many fibres which do not appear to function—support for which view is obtained from the fact that we have so often on exploration of a nerve been surprised to find that a very extensive lesion of the nerve frequently has not been attended with any marked interference with the function of the muscles supplied.

This theory of overwiring is probably true, the explanation possibly being that such nerve fibres and their corresponding muscle fibres are embryonic or dormant. That such dormant fibres can be "called up" and B 3's drilled into A 1's is a matter of ancient observation, and systematic and periodic stimulation of the neuro-muscular apparatus,

whether by voluntary effort as in gymnastic training, or by the artificial means employed in physio-therapy, is definitely known to result in an increase in size and tone of the muscles so treated.

Treatment—Preventive and Restorative.

Treatment may be regarded as preventive or restorative, according to the stage of the injury. The preventive treatment of atrophy of the tissues of an injured limb is necessarily a difficult problem, and must be largely circumscribed by the nature of the injury; but even when the exigencies of surgical treatment have been fully considered, it is deplorable to find so many patients sent at a late stage to the department of physio-therapy, the wholesale atrophy of whose tissues bears eloquent testimony to the fact that the suspension of the functional activity of every tissue of the limb was considered a *sine quâ non* of surgical treatment. Fortunately, there were many surgeons who treated the injured limb as well as the injury itself, and even under the most difficult circumstances managed to secure sufficient functional activity to prevent the atrophy that attends absolute disuse.

There is no doubt that too much attention has been given to restorative treatment as compared with preventive treatment, and the surgeon who has conquered sepsis and secured a perfect alignment has but little reason to be proud of the result if the joints of the limb are immovable, and the muscles hopelessly atrophied. For the atrophy of such muscles is frequently hopeless, and in many cases has proceeded so far that a large proportion of the muscle cells have perished and have been replaced by fibrous tissue. No amount of subsequent stimulation can restore such a muscle and "permanent disability" too often marks the measure of the surgeon's skill.

For the treatment of muscles by artificial stimulation two methods are available: stimulation by massage and stimulation by electricity.

Massage.

Bearing in mind that our object is to produce contraction in muscle fibres with a view to determining exchange between the fibre and the surrounding lymph it does not appear that in massage we have an agency of any considerable value in restoring the size and tone of a wasted muscle whose response is limited to direct stimulation, as is the case in muscles suffering from reaction of degeneration. Where the nerve supply is intact contractions in response to manipulations are largely the result of stimulation of the muscle fibre through the muscle plate, but where the nerve-supply is interrupted contractile response to manipulation must correspond to the irritability of the muscle fibres to direct stimulation, and in most cases this response to direct stimulation is very feeble. I am inclined to regard massage as effective to a large extent in such cases on account of its action on the vaso-motor system, and this result will be largely brought about by mechanical action, as the vaso-motor reflexes are also affected in peripheral nerve lesion.

Contraction produced by Means of Electrical Stimulation.

In electricity we have an agency which is peculiarly effective in producing contractions of muscle fibres, and, as is well known, by utilising this form of energy we can obtain the most complete contractions of individual muscles or muscle groups.

For the production of contraction in muscles, we can use either the faradic or the interrupted galvanic current. The stimulation caused by the electrical current is due to the displacement of the ions in the nerve or muscle and the more sudden the displacement the more stimulating is the effect. A constant current is therefore incapable of producing contractions in muscles, and it is only at the make and break of the current that stimulation takes place. It has been suggested that muscles probably contain two kinds of contractile material, the striated portion and the sarcoplasm. The striated portion responds to brief stimuli and contracts rapidly, the sarcoplasm responds to longer stimuli only, and contracts slowly. A sluggish contraction would represent a contraction of the sarcoplasm. Muscles suffering from reaction of degeneration, as is well known, will not react to the currents of brief duration set up in the ordinary induction coil of faradic battery. They will, however, react to the interrupted galvanic current, and muscles suffering from reaction of degeneration would therefore appear to have sustained a loss of striated elements with survival of the sarcoplasm alone. This appears to have been borne out by the fact that when reaction of degeneration is fully established, the character of the contraction becomes sluggish. For the treatment of muscles suffering from reaction of degeneration the galvanic current alone is effective. The faradic current is ineffective unless its voltage is enormously increased, in which case the intensity would be great and the excitation very painful. It is thus ineffective as a practical method of producing contractions. It is necessary to remember that several factors are concerned in the production of contractions in muscle by electrical stimulation; the current must have a minimum of intensity, and this minimum current, in order to be effective, must last for a definite time, this representing the velocity of excitability of the muscle. In normal muscles this is about one-thousandth part of a second; in paralysed muscles velocity of excitability is much slower, and a current may have to act for one-twenty-fifth of a second to produce contraction in a degenerate muscle. Hence the ordinary faradic current is ineffective for producing contractions in paralysed muscles. The practical problem in the treatment of muscles by electrical stimulation would appear to consist in the selection of that particular type of current that will give the best contractile response.

Considerations in the Selection of Appropriate Currents.

The selection of appropriate current is governed by two considerations. (A) The degree of the contractions produced. (B) The degree of pain caused by the current.

(A) Under the head of "degree of contraction" we are limited to the use of currents of a definite duration in the case of degenerate muscles, but in all other muscles we can simulate normal contractions best by the use of rapidly interrupted currents. The normal voluntary contraction is a tetanus—the effect of rapidly succeeding stimulations, and this continues as long as the stimuli act upon the muscle. Various attempts have been made to estimate the rate of stimulation in normal voluntary contractions. Helmholtz, by analysing the sound of contracting masseter muscles, came to the conclusion that the rate of stimulation was 35 per second. Contradictory results were obtained by other workers, but the present opinion of

physiologists is that nervous stimuli pass into a contracting muscle at a rate that varies between 20 stimuli per second as a minimum, and 35 stimuli per second as a maximum.

The production of tetanus by artificial stimuli, however, gives a very much wider range of stimulation. A rate of 20 shocks per second has been found to be the minimum required to give tetanus. The upper limit that will produce frequency tetanus has not yet been ascertained, but tetanus has been obtained with up to 20,000 induction shocks per second (Kronecker). It is a point of considerable interest whether we are right in assuming that the normal rate at which nerve impulses pass into a contracting muscle is really about 40 per second. The sound that is heard in contracting muscle is a low composite note of approximately 40 per second, but this note does not necessarily represent the rate at which nervous impulses are passing into the muscle, and it is but slender evidence on which to base an estimate of the normal impulse rate. If 40 is approximately the rate of normal stimulation we should not expect to find muscle responding to an artificial stimulation of a much higher frequency. It is doubtful if Helmholtz's estimation is correct, and the fact that with improved apparatus much more complete and effective contractions can be obtained at a high rate of stimulation, would favour the view that the normal rate of stimulation is much greater than has been supposed.

(B) Sensation appears to be influenced by two factors: (1) the length of the waves employed; (2) the uniformity of the interruptions. The effect of a current on sensation is very much influenced by the length of the waves, the stimulation of the sensory nerves being due to the movement of ions. Such movement is relatively small with short waves, but with longer waves there is a greater excursion of ions, and consequently the production of a considerable degree of pain. Sensation is also to a very large extent influenced by the uniformity of the interruptions, both as regards their rate and their character. The interrupter in the old type of faradic battery was very irregular in its action, and it gave rise to currents of uneven length and varying voltage. In 1915 Mr. Dean placed a new type of faradic coil on the market—the Wilson coil. In this coil the type of interrupter employed was an adjustable steel spring which gave an interruption of 200 to 300 per second in the primary. These interruptions were much more uniform in type than any that have hitherto been used in faradic coils, and there was consequently much less variation in the induced current, the waves were shorter, and the type of current was much less painful in its action than any that had hitherto been obtained with any other coils. Experimenting on the same lines, I designed with Mr. Dean a new type of telephone interrupter for induction apparatus, which as at present constructed will give an interruption in the primary coil of 800 to 900 per second, and the current obtained from this coil will be found to be the least painful and the most effective yet produced. Interrupted galvanic currents, where the rate of interruption exceeds 20 per second, can also be used for the stimulation of non-degenerate muscles, and of late this interruption has been done principally by the method introduced by Frimandeau.

The Frimandeau coil is best described as a primary coil, fitted at both ends of the iron core with vibrating hammers of similar type. The ordinary circuit may be described as the exciting current, and its passage causes the hammer to vibrate in the ordinary way. Frimandeau makes use of the alternate magnetisation and demagnetisation of the core to cause a synchronous movement of a similar hammer affixed at the opposite end of the core. A galvanic current is made to pass across the gap thus formed, and so we have a means of interrupting a constant current in a circuit, which may be described as the stimulating circuit. By employing various types of interrupters the rate of interruption can be varied, and I have succeeded in obtaining from 2 to 900 interruptions per second in the exciting circuit. The galvanic current so interrupted can be employed for the stimulation of muscles. When the rate of interruption falls below 20 per second single twitches are obtained in response to each stimulation. Above this rate tetanus is obtained from non-degenerate muscles, and the Frimandeau current has proved very useful in evoking effective contractions from such muscles.

For the production of tetanus with this type of current I find that an interruption of from 200 to 300 per second is the most effective. Above this rate the current appears to have the character of the ordinary constant current, and at very high speed of interruption, no contraction whatever can be obtained. The nature of the interruptions at speeds of over 50 per second is most probably not a complete make and break, and the current is most probably of an undulating type, the resistance across the gap never being sufficient to interrupt completely the passage of the current. Various methods of applying the stimulating current are in use. Metronomes for single make and break, and various types of apparatus which give rise to a current of a surging type.

The method most in favour, however, is the method of graduated contraction, the maximum number of fibres being engaged only at the crest of the stimulus, such a contraction approximates most closely to the normal type.

The Question of Fatigue.

The interesting question of fatigue remains to be considered. According to the work of Maggiora and Mosso, and of Treves, who have studied the question by means of ergograph tracings, it would appear that there are three different types of fatigue. (*a*) Fatigue of a personal type for each individual. (*b*) Fatigue of the nerve itself. (*c*) Fatigue of the muscle. Each individual has a personal type for his ergograph fatigue curve; it is constant even with wide variation of the external work. The onset of fatigue of a personal type is the most easily induced. Nerve, unlike the nerve centres, is comparatively inexhaustible, and shows no visible signs of fatigue even when thrown into a state of activity for several hours; this is due to the extremely slow metabolism of nerve tissue. When a motor nerve is excited the muscle apparently becomes fatigued long before the nerve.

Fatigue as regards muscles is purely a *toxic* phenomenon, and is due to the non-removal of lactic acid, which is produced during contraction and for the removal of which oxygen is absolutely essential (Fletcher and Hopkins, 1907). The experiments of Ranke showed that on circulating a saline solution containing no nutrient material through a fatigued muscle of a frog the fatigue disappeared; by further experiment he also demonstrated that the aqueous extract of fatigued frog's muscle circulated through the fresh muscle of another frog produced

fatigue phenomena. In the first experiment oxygen was conveyed to a muscle which was charged with lactic acid, and in the second the toxic solution conveyed lactic acid to a resting muscle.

The rhythmic activity and comparative non-fatigability of heart and respiratory muscles is undoubtedly due to (1) the rich blood-supply which provides a plentiful supply of oxygen and nutrient materials; (2) to the definite resting phase between each contraction. In experimental work it has been found that the slower the rhythm of contraction the longer the onset of fatigue is delayed; if a muscle is contracting slowly enough to allow of complete recovery between each contraction it is comparatively inexhaustible. This recovery depends on a proper supply of nutrient to repair waste, and of oxygen to allow of the removal of lactic acid.

In the treatment of muscles by artificial stimulation there should be no danger of fatigue if the following precautions are observed. (1) Some preparation of the limb is necessary to ensure a good flow of blood, such as follows treatment by the whirlpool bath. (2) The limb should be kept warm during treatment, and in a position in which there is no interference with the circulation. (3) Stimulation should be rhythmic in type, and there should be a definite interval to allow of a complete recovery between the contractions; this interval should be at least five seconds.

That artificial stimulation will bring about an improvement in the size and tone of a muscle group has been conclusively proved in practice by the actual measurement of degenerate muscles which, treated by artificial stimulation for some months after the injury, were found to have increased in size and improved in tone, although operation subsequently confirmed the diagnosis of complete interruption of their nerve-supply.

Summary.

1. Excluding the muscular dystrophies and injury due to trauma and toxins, all muscular atrophy is of the disuse type—that is, it is caused by suspension of the normal function of contraction and relaxation.

2. The condition and tone of a muscle are largely dependent on their function—interchange between the cell and surrounding lymph taking place during contraction and relaxation.

3. Prevention of atrophy and restoration of atrophied muscles by rhythmic contractions is therefore a reasonable line of treatment.

4. Artificial stimulation of muscle conserves the nervous energy of the patient and in most cases of injury is the only method that can be employed.

5. Of methods of artificial stimulation electrical is the most valuable.

6. Treatment by electrical stimulation is governed by the consideration of two factors: (1) The degree of contraction produced; (2) degree of pain caused by the stimulation.

7. Pain is largely a matter of the length of waves employed and the uniformity of the interruptions.

8. Apparatus devised to give a uniform type of interruption yields the best results.

9. Fatigue is a toxic phenomenon due to accumulation of lactic acid. There is no risk of fatigue if a proper blood-supply is ensured and a short interval allowed between the contractions.

10. Practical experience has demonstrated the value of artificial stimulation in restoring the condition of wasted muscles and in preventing atrophy.

SOME NOTES ON
120 CASES OF ACUTE APPENDICITIS
OPERATED ON AT THE ROYAL NAVAL HOSPITAL AT SOUTH QUEENSFERRY.

BY C. P. G. WAKELEY, R.N., M.R.C.S ENG., L.R.C.P. LOND.,

ASSISTANT DEMONSTRATOR OF ANATOMY, KING'S COLLEGE, LONDON; TEMPORARY SURGEON LIEUTENANT, R.N.

To write anything new concerning appendicitis may seem to be ambitious, but I venture to publish the following notes for three reasons. First, statistics of cases of acute appendicitis, where men only are concerned, are few. Secondly, the notes give an idea of the health of the Navy in war time as regards this disease. Thirdly, I wish to point out the excellent way in which such cases are rapidly evacuated from H.M. ships to hospital for treatment. Acute appendicitis is even more prevalent in war time than during peace, and this may be explained by the fact that more frozen meat is consumed, which favours intestinal sepsis.

I have preserved and carefully taken notes on the following 120 consecutive cases of appendicitis which were operated on at the R.N. Hospital, South Queensferry. It is now a well-known fact that the male sex is more liable to attacks of appendicitis than the female, and numerous statistics[1] have been published to illustrate the incidence of appendicitis in the sexes. The average length of the appendix is greater in the male than in the female, according to Macphail.[2] In the male the artery to the appendix runs along the free border of the meso-appendix and does not anastomose with any other terminal branch of the ileo-colic artery. The meso-appendix does not extend beyond the junction of the middle and distal third of the appendix, and since the portion of the appendix which projects beyond its free border is less well supplied with blood perforation not infrequently occurs about this spot. In the female a small branch of the ovarian artery reinforces the blood-supply of the appendix. No doubt, especially in the Service, the greater exposure to injury and excessive use of tobacco must be predisposing factors in producing appendicitis.

Anæsthetic.

Chloroform was used in the majority of the operations; chloroform and ether in the proportion of 1 in 2 in the rest. No spinal or local anæsthetic was used, although in my opinion they both rank high as excellent anæsthetics in acute cases; by their use shock is almost entirely abolished, there is absolute relaxation of the abdominal muscles, and there is no bad influence on the respiratory and excretory organs. Chloroform seems to me to be the best anæsthetic, apart from local anæsthetics and spinal anæsthesia. The surgeon works with better relaxation of the muscles of the abdomen and there are no pulmonary disturbances so common to ether.

Diagnosis.

Without doubt palpation is the best way to localise the inflamed point. In some cases palpation may even cause pain at remote points. One great advantage with naval surgery, especially abdominal work, is that the surgeon does not have to consider the possibilities of tubal, ovarian, or uterine trouble. Rectal palpation should be employed in the diagnosis of obscure cases. In such there is a point of tenderness on the right

120 CASES OF APPENDICECTOMY PERFORMED AT R.N. HOSPITAL, SOUTH QUEENSFERRY.

No. of case.	Name and rating.	Age.	No. of attacks.	Duration of illness.	Remarks.
1	J.T. (A.B.).	27	1st.	10 hrs.	Gridiron incision. Acutely inflamed appendix. Retrocæcal (A). Not drained. Complications nil.
2	F. C. D. (A.B.).	29	,,	12 ,,	Gridiron incision. Acutely inflamed appendix surrounded by omentum. Anterior position. Large portion of great omentum resected. Not drained. Complications nil.
3	J. T. (A.B.).	29	,,	6 ,,	Gridiron incision. Acutely inflamed appendix. Retrocæcal (A). Not drained. Complications nil.
4	H. E. B. (S.B.A.).	23	I.O.*		Gridiron incision. Operative 10 days after second slight attack. Retrocæcal (B). Appendix kinked. On section marked constriction of middle third of appendix at site of the kink. Not drained. Complications nil.
5	G. H. P. (L. Boat).	40	1st.	56 hrs.	Gridiron incision. Gangrenous perforated appendix. Free pus in pelvis. Pelvic position. Drained 4 days. (1) Pelvic drain. (2) Drain down to stump of appendix. Wound healed in 18 days. Complications nil.
6	F. C. H. (Sto.).	21	,,	24 ,,	Gridiron incision. Gangrenous appendix. Perforated at tip; small concretion. Local peritonitis. Anterior position. One drain down to appendix stump for 4 days. Complications nil.
7	D. E. D. (Elec.).	25	2nd.	10 ,,	Gridiron incision. Acutely inflamed appendix. Retrocæcal (A). Not drained. Complications nil.
8	T. G. (Mid., R.N.R.).	18	1st.	12 ,,	Gridiron incision. Acutely inflamed appendix. Anterior position. Portion of great omentum resected. Local peritonitis. Small drain for 24 hours. Complications nil.
9	A. S. (Sto.).	25	,,	18 ,,	Gridiron incision. Acutely inflamed appendix. Retrocæcal (A). Large concretion. Not drained. Complications nil.
10	A. L. (Lg. Sto.).	27	3rd.	22 ,,	Gridiron incision. Gangrenous perforated appendix. Small abscess. Many adhesions. Splenic position. Drained for 3 days, 1 tube. Complications nil.
11	G. H. B. (Mid.).	19	1st.	14 ,,	Gridiron incision. Acutely inflamed appendix. Local peritonitis. Retrocæcal position. Not drained. Complications nil.
12	J. B. (Bdr. R.M.A.).	28	2nd.	10 ,,	Gridiron incision. Acutely inflamed œdematous appendix almost perforated. Local peritonitis. Large concretion. Splenic position. Not drained. Complications nil.
13	J. E. M. (Sto.).	19	1st.	25 ,,	Gridiron incision. Acutely inflamed appendix. Anterior position. Not drained. Complications nil.
14	R. C. T. (Sto.).	21	,,	2 dys.	Gridiron incision. Gangrenous appendix. Local peritonitis. Pelvic position. Fluid in pelvis. Small pelvic drain inserted. Complications nil.
15	E. S. (Sto., R.N.R.).	21	,,	24 hrs.	Gridiron incision. Acutely inflamed appendix very adherent to cæcum. Small concretion. Retrocæcal (B). Not drained. Complications nil.
16	— P. (Mid.).	18	2nd.	34 ,,	Gridiron incision. Acutely inflamed appendix. Hydrops. Splenic position. Not drained. Complications nil.
17	G. S. F. (Spwrt.).	38	,,	46 ,,	Rectus incision. Gangrenous appendix. Local peritonitis. Distinct kink in the middle of the appendix. Anterior position. Small drain for 48 hours. Complications nil.
18	C. J. W. (A.B.).	21	1st.	2 dys.	Rectus incision. Acutely inflamed appendix. Anterior position. Not drained. Complications nil.
19	G. C. F. (Sto.).	20	2nd.	38 hrs.	Rectus incision. Gangrenous perforated appendix. Pelvic position. Pus in pelvis and around the caput cæcum. Pelvic and iliac drain. Complications: Pelvic abscess 8th day after.
20	C. M. (P.O.).	32	3rd.	4 dys.	Rectus incision. Gangrenous perforated appendix. Abscess the outer side of the cæcum. Pelvic peritonitis. Large concretion found in abscess cavity. Pelvic and iliac drain. Retrocæcal position. Complications: Fæcal fistula 4th day; persisted for 6 days.
21	J. A. J. (Ch. Sto., R.F.R.).	46	,,	16 hrs.	Rectus incision. Acutely inflamed appendix. Retrocæcal (B). Many adhesions to cæcum. Peritoneum covering iliac fossa incised to remove appendix. Peritonealplasty performed. Not drained. Complications nil.
22	J. P. (Sto.).	21	1st.	24 ,,	Rectus incision. Acutely inflamed appendix. Anterior position. Not drained. Complications nil.
23	G. E. T. (A.B.).	23	2nd.	18 ,,	Gridiron incision. Large appendicular abscess opened. Appendix, retrocæcal and perforation of cæcum found. Outer wall of cæcum very inflamed. Abscess drained. Fæcal fistula for 14 days. Appendicectomy performed at R.N.H., Bute, 6 months later.
24	J. H. (A.B., R.N.R.).	34	1st.	12 ,,	Rectus incision. Acutely inflamed appendix. Anterior position. Not drained. Complications nil.
25	R. H. (Sto.).	21	,,	24 ,,	Rectus incision. Gangrenous appendix. Anterior position. Large concretion present in appendix. No drainage. Complications nil.
26	G. T. (Pte., R.M.L.I.).	22	,,	24 ,,	Gridiron incision. Large appendicular abscess opened. This was shut off by very firm adhesions. Abscess drained for 8 days, when it healed. Appendix removed later. Retrocæcal in position.
27	H. J. S. (O.S.).	18	,,	3 dys.	Rectus incision. Gangrenous perforated appendix. Small abscess to the outer side of the cæcum. Retrocæcal (A). Iliac drain for 6 days. Complications nil.
28	G. B. (Boy).	17	,,	16 hrs.	Rectus incision. Acutely inflamed appendix. Local peritonitis. Retrocæcal (A). Not drained. Complications nil.
29	S. R. (A.B.).	19	,,	12 ,,	Rectus incision. Acutely inflamed appendix. Anterior position. Not drained. Complications nil.
30	H. K. (Sto., R.N.R.).	30	2nd.	16 ,,	Rectus incision. Acutely inflamed kinked appendix. Anterior position adherent to great omentum. Position of omentum removed. Not drained. Complications nil.
31	F. D. (Sto.).	22	1st.	13 dys.	Rectus incision. Totally gangrenous appendix. Pelvic position. General peritonitis. Pus in kidney pouch and pelvis. Four draining tubes, one in each flank, one in pelvis, and one in right iliac fossa. Complications: Residual pelvic abscess.
32	H. P. (A.B.).	30	,,	16 hrs.	Rectus incision. Acutely inflamed appendix. Anterior position. Not drained. Complications nil.
33	G. T. D. (Sto.).	22	,,	10 ,,	Rectus incision. Acutely inflamed appendix. Anterior position. Not drained. Complications nil.
34	H. B. (Elec.).	28	2nd.	18 ,,	Rectus incision. Gangrenous appendix perforated. Pelvis position. Pelvic peritonitis. Pelvic drain. Complications nil.
35	H. S. (Pte., R.M.L.I.).	19	1st.	24 ,,	Rectus incision. Acutely inflamed appendix. Anterior position. Not drained. Complications nil.
36	H. D. (S.B.A.R.).	21	2nd.	10 ,,	Gridiron incision. Acutely inflamed appendix. Retrocæcal (A) Not drained Complications nil

* Intermediate operation.

120 CASES OF APPENDICECTOMY (*Continued*).

No. of case.	Name and rating.	Age.	No. of attacks.	Duration of illness.	Remarks.
37	A. W. (Sto.).	23	1st.	24 hrs.	Rectus incision. Acutely inflamed appendix. Local peritonitis. Retro-cæcal (A). Not drained. Complications nil.
38	W. O. (Ar.Cr.).	25	,,	2 dys.	Rectus incision. Acutely inflamed appendix. Small concretion. Anterior position. Not drained. Complications nil.
39	R. A. (Sto.).	16	,,	24 hrs.	Rectus incision. Acutely inflamed appendix, kinked, lumen, almost obliterated at kink. Retro-cæcal (A). Complications nil.
40	N. C. D. (Musician).	21	,,	3 dys.	Rectus incision. Large abscess. Appendix had sloughed off, leaving a fæcal fistula. There was general peritonitis. Peritoneum irrigated with saline. Three drainage-tubes inserted, one in either flank and one in pelvis. Recovery slow. Complications: Jaundice which lasted 8 days.
41	W. E. P. (Sto.).	23	,,	24 hrs.	Rectus incision. Acutely inflamed appendix. Anterior position. Local peritonitis. Not drained. Complications: Small secondary abscess at lower end of wound, healed quickly.
42	A. L. (Off.Stwd.).	23	2nd.	16 ,,	Rectus incision. Acutely inflamed appendix, kinked, and very adherent to cæcum. Retro-cæcal (B). Not drained. Complications nil.
43	J. T. (Sto.).	23	1st.	20 ,,	Rectus incision. Acutely inflamed appendix. Gangrenous at tip, which was dilated into a bag of pus. Anterior position. Not drained. Complications nil.
44	H. G. (Sto.).	22	,,	24 ,,	Rectus incision. Gangrenous appendix. Purulent fluid in pelvis. Pelvic position. Pelvic drain for 2 days. Complications nil.
45	R. G. T. (Sto.).	19	,,	38 ,,	Rectus incision. Gangrenous appendix. Local peritonitis. Splenic position. Small concretion. Not drained. Complications nil.
46	J. McD. (Pte., R.M.L.I.).	30	2nd.	3 dys.	Rectus incision. Perforated gangrenous appendix. Retrocæcal (B). Local peritonitis. Iliac drain for 8 days. Complications nil.
47	J. S. (Boy).	17	1st.	36 hrs.	Rectus incision. Acutely inflamed appendix. Splenic position. Not drained. Complications nil.
48	W. H. (Carp. Mte.).	26	2nd.	48 ,,	Rectus incision. Gangrenous perforated appendix. Anterior position. General peritonitis. Drained by pelvic and iliac tubes. Died of pneumonia 4 days after the operation.
49	H. A. (A.B.).	20	1st.	26 ,,	Rectus incision. Acutely inflamed appendix. Retrocæcal (B). Not drained. Complications nil.
50	M. F. (Sto.).	19	,,	30 ,,	Rectus incision. Acutely inflamed appendix. Anterior position. Appendix wrapped in great omentum. Portion of great omentum resected. Not drained. Complications nil.
51	F. S. (A.B., R.N.D.).	40	3rd.	2 dys.	Rectus incision. Gangrenous perforated appendix. Pelvic position, very adherent. Pus in pelvis. Drained by a tube in pelvis. Complications: Cystitis for 10 days.
52	C. H. L. (Ass. Clerk).	17	1st.	18 hrs.	Rectus incision. Gangrenous perforated appendix. Anterior position. Pus in pelvis. Drained two tubes, pelvic and lumbar. Complications: Bronchitis.
53	F. McB. (Sto. H.).	19	,,	24 ,,	Rectus incision. Acutely inflamed appendix. Anterior position. Local peritonitis. Not drained. Complications nil.
54	H. S. (Sto.).	27	3rd.	38 ,,	Rectus incision. Grangrenous perforated appendix. Anterior position. Large abscess. Three large concretions removed. Pelvis drained by large tube. Complications nil.
55	F. K. (A. B.).	19	1st.	26 hrs.	Rectus incision. Acutely inflamed appendix. Splenic position. Tip of appendix adherent to root of mesentery. Not drained. Complications nil.
56	W. B. (A.B.).	29	2nd.	16 ,,	Rectus incision. Gangrenous appendix perforated near its tip. Small abscess. Anterior position. Portion of great omentum resected. Small drain down to stump of appendix. Complications nil.
57	D. K. (A.B.).	34	,,	12 ,,	Rectus incision. Gangrenous perforated appendix. Retrocæcal (B). Retrocæcal fossa drained. Complications: Bronchitis.
58	J. B. (Sto.).	20	1st.	30 ,,	Rectus incision. Gangrenous perforated appendix. Local peritonitis. Anterior position. Drainage-tube for 48 hours. Complications nil.
59	H. O'N. (Sto.).	19	,,	24 ,,	Rectus incision. Gangrenous appendix, not perforated. Anterior position. Small drain for 48 hours. Complications nil.
60	G. B. (Sto.).	22	,,	16 ,,	Rectus incision. Acutely inflamed appendix. Splenic position. Not drained. Complications nil.
61	E. J. A. (Sto.).	20	,,	48 ,,	Rectus incision. Gangrenous perforated appendix. Large concretion. Appendix doubled upon itself. Retrocæcal position. Free fluid in pelvis. Pelvic and iliac drainings. Complications nil.
62	E. A. R. (Gr., R.M.A.).	36	3rd.	28 ,,	Rectus incision. Acutely inflamed appendix. Retrocæcal (B). Many adhesions. Not drained. Complications: Bronchitis.
63	D. F. de M. (Carp. Cr.).	26	1st.	50 ,,	Rectus incision. Acutely inflamed appendix. Splenic position. Not drained. Complications nil.
64	G. B. (Mid.).	19	,,	15 ,,	Rectus incision. Acutely inflamed appendix, kinked, marked appendicular sclerosis. Anterior position. Not drained. Complications nil.
65	J. D. N. (Sto., P.O.).	37	2nd.	24 ,,	Rectus incision. Acutely inflamed appendix. Retrocæcal (A). Small concretion. Not drained. Complications nil.
66	J. T. (Sto., P.O.).	32	,,	26 ,,	Rectus incision. Gangrenous perforated appendix. Anterior position. Appendix surrounded by omentum. Small drain. Complications nil.
67	G. W. (Lg. Sig.).	29	3rd.	36 ,,	Rectus incision. Gangrenous appendix. Abscess. Retrocæcal (A). Retrocæcal fossa drained. Complications nil.
68	R. G. H. (Boy).	17	1st.	28 ,,	Rectus incision. Acutely inflamed appendix. Anterior position. Not drained. Complications nil.
69	D. S. (Sto.).	19	,,	48 ,,	Rectus incision. Acutely inflamed appendix. Splenic position. Not drained. Complications nil.
70	J. H. (Boy).	17	,,	50 ,,	Rectus incision. Gangrenous appendix. Small concretion. Anterior position. Not drained. Complications: Small secondary abscess which quickly healed.
71	C. B. (O.S.).	18	,,	46 ,,	Rectus incision. Acutely inflamed long appendix, adherent to bladder. Pelvic position. Small pelvic drain for 4 days. Complications; Cystitis.
72	D. R. (Motor boatman.)	41	3rd.	50 ,,	Rectus incision. Acutely inflamed kinked appendix. Small concretion. Retrocæcal (A). Not drained. Complications nil.
73	V. W. M. (E. R. A.).	23	2nd.	24 ,,	Rectus incision. Chronic appendix obliterated at its centre, with well-marked cystic extremity. Pelvic position. Not drained. Complications nil.
74	E. M. (Sto., P.O.).	38	1st.	46 ,,	Rectus incision. Gangrenous appendix. Local peritonitis. Retrocæcal (A). Not drained. Complications: Catarrhal jaundice.

120 CASES OF APPENDICECTOMY (*Continued*).

No. of case.	Name and rating.	Age.	No. of attacks.	Duration of illness.	Remarks.
75	C. B. (Sto.).	21	1st.	48 hrs.	Rectus incision. Acutely inflamed appendix, gangrenous at tip. Splenic position. Not drained. Complications nil.
76	C. H. G. (Sto.).	21	,,	56 ,,	Rectus incision. Gangrenous perforated appendix. Retrocæcal (A). General peritonitis. Pelvis, right kidney pouch, and lumbar region drained. Complications: Fæcal fistula.
77	Wm. H. H. (Sto., R.F.R.).	27	2nd.	18 ,,	Rectus incision. Gangrenous perforated appendix. Anterior. Small drain. Complications nil.
78	B. H. (Mid., R.N.R.).	18	1st.	24 ,,	Rectus incision. Thickened inflamed appendix. Anterior position. Three large mesenteric glands removed. Sections cut. Appendix and glands tuberculous. No drainage. Complications nil.
79	P. D. (A.B., R.F.R.).	40	3rd.	72 ,,	Rectus incision. Gangrenous perforated appendix. Retrocæcal (B). Retrocæcal fossa drained. Complications: Fæcal fistula.
80	W. C. (A.B.).	22	2nd.	18 ,,	Rectus incision. Thickened inflamed appendix. Anterior position. Not drained. Complications: On cutting open the appendix yellow gritty bodies were seen. Appendix was sent to Edinburgh for examination. Report: Actinomycosis of appendix.
81	J. G. (A.B.).	21	1st.	24 ,,	Rectus incision. Acutely inflamed appendix. Splenic position. Not drained. Complications nil.
82	H. S. (Mid.).	17	,,	10 ,,	Rectus incision. Acutely inflamed appendix. Large concretion. Anterior position. Not drained. Complications nil.
83	P. L. C. (Sto.).	34	,,	22 ,,	Rectus incision. Gangrenous perforated appendix. Anterior position. Local peritonitis. Small drain. Complications nil.
84	W. T. B. (Sto.).	21	,,	16 ,,	Rectus incision. Acutely inflamed appendix, kinked, splenic. Not drained. Complications nil.
85	H. W. (O.S.).	20	,,	24 ,,	Rectus incision. Acutely inflamed appendix. Retrocæcal (A). Not drained. Complications nil.
86	C. H. H. (Lg. Sto.).	25	,,	14 ,,	Rectus incision. Acutely inflamed appendix. Pelvic position. Some free fluid in pelvis. Not drained. Complications: Post-operative distension.
87	J. K. (Ch.Elec.).	36	2nd.	24 ,,	Rectus incision. Acutely inflamed appendix. Splenic position. Not drained. Complications nil.
88	J. T. B. (W.O.).	36	1st.	30 ,,	Rectus incision. Gangrenous perforated appendix. Retrocæcal (A). Retrocæcal fossa drained. Complications: Post-operative distension.
89	A. O. (O.S.).	20	,,	16 ,,	Rectus incision. Acutely inflamed appendix. Retrocæcal (A). Not drained. Complications nil.
90	L. C. (E.R.A.).	28	2nd.	28 ,,	Rectus incision. Gangrenous perforated appendix. Large concretion. Anterior position. Pelvic peritonitis. Pelvic and iliac drain. Complications nil.
91	W. J. (Sto.).	33	1st.	36 ,,	Rectus incision. Acutely inflamed appendix, kinked, and adherent to great omentum. Anterior position. Not drained. Complications: Pleurisy.
92	C. H. (Lg. Sig.).	26	,,	20 ,,	Rectus incision. Acutely inflamed appendix. Small concretion. Pelvic position. Not drained. Complications nil.
93	C. P. (Boy).	16	,,	58 ,,	Rectus incision. Perforated gangrenous appendix. Retrocæcal (B). Pelvis and retrocæcal fossa drained. Complications: Fæcal fistula, which persisted for 6 days.
94	C. F. C. (Bugler, R.M.A.).	14	,,	28 ,,	Rectus incision. Perforated gangrenous appendix. Large concretion. Pelvic position. Pelvic drain. Complications: Post-operative distension.
95	C. E. (A.B.).	27	1st.	34 hrs.	Rectus incision. Acutely inflamed appendix. Splenic position. Not drained. Complications nil.
96	W. H. C. (E.R.A.).	24	2nd.	24 ,,	Rectus incision. Gangrenous perforated appendix. Pelvic abscess. Pelvic position. Iliac fossa and pelvis drained. Complications: Post-operative distension.
97	T. T. (Lt.-Com.).	32	1st.	42 ,,	Gridiron incision. Gangrenous perforated appendix. Local peritonitis. Splenic position. Large drainage-tube. Complications: Acute intestinal obstruction on 8th day. Wound opened up and small abscess in the mesentery found. Healed well.
98	J. G. (Boy).	16	3rd.	8 dys.	Gridiron incision. T. B. peritonitis. Appendix removed. Pelvic position. Wound drained for 48 hours. Recovery slow.
99	A. H. (Bugler).	17	1st.	36 hrs.	Rectus incision. Gangrenous appendix. Perforated at tip. Small abscess. Retrocæcal (A). Small drain for 2 days. Complications nil.
100	G. G. (O.S.).	19	,,	36 ,,	Rectus incision. Gangrenous perforated appendix. Pelvic position. Pelvis and right iliac fossa drained. Complications nil.
101	J. B. (A.B.).	20	3rd.†	—	Rectus incision. Operation 8 days after 3rd attack. Retrocæcal (B). Very long appendix, adherent to cæcum along its entire length. Decortication of the appendix performed. No complications.
102	C. K. S. (Lg. Cks. Mate).	36	1st.	3 dys.	Rectus incision. Gangrenous perforated appendix. Anterior position. General peritonitis. Pelvic, lumbar, and cæcal drainage-tubes inserted. Complications: Intestinal obstruction 2nd operation on 4th day; large abscess opened. Recovery slow.
103	J. H. (Gr. Mte.).	23	,,	54 hrs.	Rectus incision. Gangrenous perforated appendix. Retrocæcal (B). Large abscess. Large drainage-tube in retrocæcal fossa. Complications: Fæcal fistula.
104	J. D. (A.B.).	19	,,	2 dys.	Rectus incision. Gangrenous perforated appendix. Retrocæcal (B). Local peritonitis. Small abscess. Condition of cæcum bad. One drainage-tube. Complications: Fæcal fistula developed 3 days after operation, and persisted for 10 days.
105	H. F. (E.A.).	24	,,	48 hrs.	Rectus incision. Gangrenous perforated appendix. Large concretion. Retrocæcal (A). Fossa drained. Complications nil.
106	F. G. (Lg. Sea.).	29	,,	48 ,,	Rectus incision. Gangrenous perforated appendix, kinked on itself. Retrocæcal (A). Fossa drained. Complications nil.
107	G. E. S. (Musician).	21	2nd.	3 dys.	Rectus incision. Perforated gangrenous appendix. Retrocæcal (A). Small abscess. Two concretions. Drainage-tube inserted down to appendix stump, removed after 6th day. Complications nil.
108	P. H. N. (Eng. Lt.-Com.).	42	3rd.	2 ,,	Rectus incision. Gangrenous perforated appendix. Pelvic position. Pelvic peritonitis. Large pelvic drainage-tube inserted, removed 10th day. Complications: Hæmaturia for 3 days.
109	W. R. (E.A.).	17	1st.	56 hrs.	Rectus incision. Perforated appendix and abscess found in the iliac fossa behind the peritoneum on the fascia iliaca. Retrocæcal (C) drained. Complications nil.
110	H. C. (Sto.).	24	,,	24 ,,	Rectus incision. Acutely inflamed appendix. Splenic position. Not drained. Complications nil.

† Intermediate operation.

120 CASES OF APPENDICECTOMY (*Continued*).

No. of case.	Name and rating.	Age.	No. of attacks.	Duration of illness.	Remarks.
111	A. L. (O.S).	21	1st.	48 hrs.	Rectus incision. Perforated gangrenous appendix. Pelvic abscess. Pelvic position. Pelvis and right iliac fossa drained. Complications: Cystitis.
112	E. J. W. (Sto.).	24	,,	16 ,,	Rectus incision. Acutely inflamed appendix. Splenic position. Not drained. Complications nil.
113	W. R. (Pte., R.M.L.I.).	29	,,	48 ,,	Rectus incision. Acutely inflamed appendix. Splenic position. Not drained. Complications nil.
114	J. D. (Lg. Sto.).	27	4th.	10 ,,	Rectus incision. Chronic kinked appendix removed. Anterior position. Small perforated ulcer of lesser curvature of stomach excised. Drainage for 3 days. Complications nil.
115	A. M. (Stewd.).	20	1st.	26 ,,	Rectus incision. Acutely inflamed appendix. Splenic position. Not drained. Complications nil.
116	J. F. (Sto.).	20	2nd.	2 wks.	Rectus incision. Appendix inflamed. Retrocæcal (A). T.B. peritonitis. Fluid withdrawn. Wound impregnated with iodoform paste and closed without drainage. Condition improved rapidly.
117	L. P. C. B. (Sig.).	18	1st.	10 hrs.	Rectus incision. Anterior position. Acutely inflamed appendix. Local peritonitis. Drained, 1 tube for 4 days. No complications.
118	E. V. (A.B.).	27	,,	24 ,,	Rectus incision. Acutely inflamed appendix. Small concretion. Retrocæcal (A). Local peritonitis. Not drained. Complications nil.
119	E. H. A. (Lg. Sea.).	35	,,	36 ,,	Rectus incision. Perforated gangrenous appendix. Splenic position. Small drain. Complications: Post-operative distension.
120	A. N. (Musician)	18	,,	4 dys.	Gridiron incision. Large abscess opened to the outer side of the cæcum. Appendix retrocæcal in position, and was bound down by many adhesions and not removed. Abscess drained. Complications nil. Appendicectomy performed at R.N. Hospital, Bute, later.

side of the rectum just about the circular ring of muscular fibres which form what is sometimes known as the valve of O'Beirne. I do not consider Bastedo's sign to be of very special use in the diagnosis of appendicitis, although Hertz[3] speaks very highly of it. The test depends upon the production of pain and tenderness in the right iliac fossa on inflation of the colon with air.

Incision.

In 22 cases only was McBurney's gridiron incision used; for the remainder Battle's rectus incision was employed. I consider the muscle-splitting operation is only indicated for interval appendicectomy and in those late cases where an abscess is pointing in the right iliac fossa. For routine appendicectomy the rectus incision is to be preferred, as the gridiron incision has many drawbacks; more room is only to be had by cutting across the muscles of the abdominal wall. Ventral hernia is more liable to follow, and Adams[4] states that right inguinal hernia sometimes follows after the muscle-splitting operation of McBurney, due, no doubt, to the upsetting of the neuro-muscular arrangement of the inguinal canal.

Development and Position of the Appendix.

According to Gladstone,[5] in a human embryo of 7·5 mm. lengths (Harvard College) the cæcal diverticulum is recognised as a slight swelling of the distal limb of the intestinal loop. In an embryo of 17 mm. length this bulging is more pronounced, and forms a rounded swelling, such as is seen in Specimen 629, Royal College of Surgeons of England. In a later stage it becomes conical. Between 40 and 50 mm. a narrower distal part which will become the appendix can be distinguished from a wider proximal part which will become the cæcum. It is not, however, until after birth that a sudden diminution in the calibre of the gut marks off the root of the appendix coming off from its lower point. The asymmetrical form is not developed until a few years after birth. In a human embryo of 45 mm. length the liver comes down to the level of the V. lumbar vertebra; the appendix, which can be clearly seen at this stage of development, is found a considerable distance lower down in the iliac fossa. The reason why the cæcum and appendix are found above the iliac fossa in children is due to the unequal development of the spinal column. The intestinal tract does not keep pace with the development of the vertebræ, and in consequence the cæcum and appendix come to lie at a higher plane. It is common in children to find that the cæcum has not reached the iliac fossa, but has been delayed in descent and remains in the umbilical region. The cæcum descends into the iliac fossa as the colon increases in length. Before the descent of the cæcum takes place the appendix may be in a retrocæcal position and may become fixed there. When the cæcum descends the appendix is in the extraperitoneal retrocæcal position.

The position of the appendix may be: anterior, splenic, pelvic, or retrocæcal; the names explain themselves, but the retrocæcal position requires a few words of explanation. In this position the appendix has a varying relation to the peritoneum, and I have classified all the retrocæcal cases as A, B, or C.

(A) The appendix lies in the retrocæcal fossa covered with peritoneum.

(B) The appendix lying adherent to the posterior aspect of the cæcum in the anterior wall of the fossa.

(C) The appendix lying on the fascia iliaca in the retrocæcal fossa uncovered with peritoneum.

It is in the retrocæcal (B) cases that there is a great chance of a fæcal fistula following appendicectomy, as the cæcum is always in a bad condition. The pelvic position of the appendix is no doubt due to a short mesentery, in these cases the mesentery being attached to the posterior abdominal wall near the pelvic brim. Occasionally the appendix has no mesentery and is entirely retroperitoneal.

Drainage.

There is always the question when operating on cases of acute appendicitis whether the abdominal cavity should be drained or not. In quite a number of cases where the appendix was gangrenous the peritoneal cavity was not drained, and the abdominal wound healed by first intention, and recovery was interrupted. I have never drained a pelvic abscess through the rectum as is sometimes recommended, because I consider it unnecessary, and the patient suffers from additional shock. In several cases in which the appendix lay to the outer side of the cæcum, the abdomen was drained by placing a tube in the right flank, but the method is unsatisfactory and the discharge scanty.

From the tables it will be seen that there were six cases of appendicectomy performed during the

quiescent stage. Three of these were tuberculous, two having tuberculous peritonitis, another was a case of actinomycosis of the appendix. The other cases, No. 4 and No. 101, were purposely performed after the acute attack had subsided.

Results.

—	Total.	Recovered.	Died.	Mortality.
During quiescent stage	6	6	0	Nil.
During acute stage:				
General peritonitis ...	12	11	1	8·33%
Abscess	25	25	0	Nil.
Local peritonitis... ...	38	38	0	,,
Inflammation localised to appendix	39	39	0	,,
	114	113	1	0·877%
Grand total	120	119	1	0·833%

Complications which Occurred amongst the 114 Cases Operated upon During the Acute Attack.

Complications.	No. of cases.	Complications.	No. of cases.
Secondary abscess	6	Intestinal obstruction ...	2
Fæcal fistula	7	Catarrhal jaundice	2
Lobar pneumonia	1	Cystitis	3
Pleurisy	1	Hæmaturia	1
Bronchitis	3	Post-operative distension	5

The 7 cases which developed a fæcal fistula were operated upon late in the attack.

Whenever possible, in acute cases of appendicitis with abscess formation the appendix should be removed. In only two cases (23 and 120) the appendix was not removed at the first operation, but at a later date. In these cases the abscess cavity was a large one and well walled off, the appendix could not be felt, and the condition of the patient grave.

Case 120, musician, aged 18. This boy had just returned from seven days' leave, during which time he was unwell. He went three times to a chemist, who told him he was suffering from colic and gave him some medicine. On rejoining his ship, as he felt worse, he reported to the sick-bay, and was immediately transferred to hospital.

As regards complications, Cheever[7] points out that the most frequent complication of acute appendicitis is post-operative intestinal stasis. This is generally due to paralysis of the bowel wall consequent upon the peritoneal infection. There are other cases, however, in which the obstruction is caused by a twist or kink, most frequently affecting the terminal ileum. Many of the former group recover spontaneously, or are relieved by suitable non-operative treatment. Obstruction from mechanical causes, however, needs early operative treatment if the case is to recover, and it is therefore of the greatest possible importance to recognise these cases.

Cheever thinks that a certain number of cases of this latter group are due to adhesion of the ileum to the inflamed bed of the appendix on the lateral pelvic wall, a condition to be suspected if after a few days of normal convalescence, symptoms of intestinal stasis appear in a patient whose inflamed appendix has been stripped away from the side wall of the pelvis.

References.—1. R. Short: Appendicitis, Index of Prognosis, 1915. 2. S. R. Macphail: Jour. Anat., vol. li., p. 308. 3. Hertz: THE LANCET, 1913, vol. i., p. 308. 4. J. E. Adams: Practitioner, April, 1917, p. 301. 5. R. J. Gladstone: Jour. Anat. and Phys., vol. ccccxvi. 6. Keibel and Mall: Manual of Human Embryology. 7. Cheever: Bost. Med. and Surg. Jour., 1913, i., 179.

A NOTE ON

DEXTROCARDIA, COMPLETE AND INCOMPLETE,

WITH FOUR ILLUSTRATIVE CASES.

BY BASIL PARSONS-SMITH, M.D., B.S. LOND., M.R.C.P. LOND.,

LATE CAPTAIN, R.A.M.C. (T.C.).

DEXTROCARDIA, or right-sided heart, is a condition sufficiently uncommon to merit a most careful inquiry into the physical state, resistance value, and work capacity of all cases that come before our notice, and the four examples hereunder noted may be taken to call for special interest in that each was a soldier who had, for a time at any rate, performed full duty on active service. Dextrocardia, as seen clinically, must be clearly differentiated from a condition to which it is closely allied—viz., pseudo-dextrocardia, where we are dealing with a displacement, not a transposition. True dextrocardia is a congenital anomaly; as the name inplies, it indicates a heart situated on the right side, associated, more often than not, with transposition of the stomach, spleen, and liver. By such visceral dispositions one would expect a practical and efficient compensation for the abnormal site adopted by the heart in its evolution.

Recital of Four Cases.

The following cases may assist us in arriving at reasonably definite conclusions.

CASE 1.—Tpr. R., age 30. The patient came under observation in August, 1918, suffering from "D. A. H." and symptoms of general incompetence which had compelled him to leave his unit some two months previously. In size, height, and general development patient is well above the normal standard. The family history is unimportant, and exhibits no features of note in the present context. The past history from the medical point of view is negative, except for bronchitis at the age of 7. During boyhood the usual athletic pursuits were followed, and until joining the army patient had been employed as a farmer. It is noteworthy, however, that he was unable to make sustained effort, and, being his own master, he was in a position to choose the light work and miss that of a heavy and laborious nature. For this apparent disability no intrinsic medical reason is given by the patient; the only explanation he advances is that he was always subject to colds and pains in the right side of the chest on exertion.

In March, 1917, patient joined the army (R.H.Gds.) and commenced his training in riding, foot-drill, gymnastics, &c. This he managed perfectly satisfactorily for three and a half months; at the end of this time he was seen by the medical officer in consequence of a persistent pain in the chest and a general condition of debility, and for this reason he was transferred for lighter duty to the clipping staff, at which work he remained until coming overseas in March, 1918. On arrival in France he was at once attached to the M.G.C. and performed full duty in the line for two months, when, the old symptoms returning, patient was sent down the line.

The symptoms were few but definite: Shortness of breath with effort, pains in the chest (right), dizziness (postural), tremor and nervousness. On examination, apex beat sixth intercostal space (right), 1½ inches internal to the mid-clavicular line, heaving in character, not tender to palpation. The A.C.D. begins above the fourth right costal cartilage, extends down the left sternal margin, and outwards half an inch beyond the apex beat in the sixth intercostal space. Sounds clear, relative intensity normal. No thrill at apex or base. No abnormal exocardial sounds. Heart's reaction to effort test not good, rate of beat, elevation of blood pressure, and respiratory

excursions one and all unduly exaggerated. Pulmonary expansion normal and lungs free from physical signs.

X ray report: Transposition of heart, liver, and stomach; bismuth was given and seen very distinctly on the right side in the fundus of the stomach.

CASE 2.—Rfn. H., age 19. Evacuated from his unit with gas poisoning, presented the usual symptoms which follow exposure to the vapour of the so-called "mustard gas" (di-chlor-ethyl-sulphide); was treated by routine methods and made a satisfactory and complete recovery. Patient's family history is good, and his past life, except for an attack of typhoid fever at the age of 13 and diphtheria when 16, has been perfectly normal from the exercise and athletic point of view. At 18 patient joined the army and underwent the usual course of training without experiencing the least difficulty.

To outward appearance patient is a normal healthy lad, well proportioned and developed; the colour is good; there is no tendency to cyanosis or clubbing of the fingers; the conformity of the thorax and trunk is normal; the heart's apex is seen and felt in the fifth right intercostal space 1 inch internal to the mid-clavicular line, and in the lateral decubitus it is observed to travel outwards (1 inch) and downwards to the sixth space. The cardiac dullness begins above at the level of the third intercostal space, extends down the mid-sternal line, and outwards to the apex beat. The first sound at the apex is split, otherwise the sounds, at both apex and base, are normal in tone and relative value; the rhythm is regular. The response to effort is good and satisfactory. The manometric readings, before and after the test exercise, conform to the normal type. The respiratory excursion is good and equal on the two sides, and the healthy vesicular murmur is heard over both lungs, gastric tympany extends downwards from the sixth intercostal space on the right side, and the note characteristic of hepatic dullness extends from the sixth rib to the costal margin on the left side. Extract from X ray report says: "Transposition of heart, liver, and stomach; bismuth given and seen on the right side in the fundus of the stomach."

CASE 3.—Pte. R., age 31. Was admitted August, 1917, complaining of shortness of breath, choking sensations at nights, exhaustion with the slightest effort, and loss of weight. His past history was not good, all the usual childish complaints with persistent delicacy during adolescence compelled him to adopt a sedentary occupation. After four months of active service, the above-mentioned symptoms of incompetence made their appearance, and patient was sent down the line. The appearance of the man when first seen was noted as follows: medium height, poor physique, and expression of anxiety, sallow complexion, with a definite cyanotic tinge.

On examination, an impulse typical of the heart's apex was seen and felt in the sixth right intercostal space 4 inches from the midsternal line; to percussion, dullness, characteristically cardiac, was found to extend from the third space above, down the left sternal margin and outwards to the impulse; this area was unduly prominent and hyperæsthetic to both palpation and percussion; extra-systoles, with change of position and following exercise, interfered with the otherwise regular rhythm; the first sound at the apex was reduplicated, no bruit was detected, and the basal sounds were clear. The stomach was proved to occupy its normal position, both by percussion and inflation; the liver was situated in its usual quarters on the right side; the heart's response to effort was bad, test exercises were productive of visible distress, the objective phenomena, rise in pulse-rate, respiration and blood pressure, were both exaggerated and prolonged, and sustained effort, even of a mild description, was unsatisfactorily performed. Under treatment slight progress in general condition was manifest, but it rapidly became clearly obvious that patient would never arrive at the standard of fitness which full duty on active service demands.

CASE 4.—Pte. B., age 27. Admitted November, 1917, labelled V.D.H. His history in brief was as follows: Persistently poor health during childhood, inability for games or strenuous exercise of any kind, a sedentary occupation (clerk), and a permanent tendency to bronchitis which invariably incapacitated him during the colder months. Patient experienced great difficulty with his training, and was more often than not on light duty. On arrival overseas he was drafted to his unit; symptoms of general incompetence soon became evident, and patient was sent to hospital at the end of the fifth week.

At the first examination patient was observed to be a poorly developed man of delicate build and sallow, anæmic complexion. The main symptoms included shortness of breath, faintness, giddiness, pains and constriction in the chest. The conformity of the chest was irregular in that the right side was unduly prominent and the left side appeared decidedly flattened; the heart's apex beat was seen and felt in the sixth right intercostal space one inch external to the nipple line; the cardiac dullness (deep) began above at the level of the third rib and extended down the left sternal margin and outwards to the apex beat; this area was prominent and hyperæsthetic to palpation and percussion; the heart-rate was rapid (124 resting), the rhythm was regular and undisturbed; the diastolic interval curtailed; the sounds at the apex were short, sharp, and accentuated, especially the first sound; the basal sounds were complicated by a soft and long-drawn-out bruit which was audible over the upper half of the præcordial area. This bruit varied in intensity, being distinctly louder during the systolic phase and tailing off rapidly in the diastolic interval. After exercise one could easily pick up the murmur posteriorly at the angle of the scapula. A fine thrill was felt on light palpation in the third intercostal space one inch from the right sternal margin. The pulse was rapid, low in tension, and small in volume, though larger in the left radial than the right, possibly owing to the fact that patient was left-handed. The blood-pressure readings confirmed the impression one had formed of the pulse by palpation. The systolic reading was 90 mm., the diastolic 75 mm.; these readings were taken with the patient at rest. Effort, even the elementary tests, was badly borne, the usual symptoms of distress were complained of, and objective phenomena—viz., dyspnœa, cyanosis, pallor, perspiration, and the typical facies of anxiety—were noted. Stomach resonance occupied the normal position on the left and reached the sixth rib in nipple line, merging at this point directly into pulmonary resonance (confirmed by the inflation test). The liver was situated on the right side, and the percussion dullness of this organ extended downwards in direct continuity from the heart dullness above to the costal margin below.

Summary of Cases.

In briefly summarising the above it is clearly evident we are dealing with two entirely different types of right-heart. In the first two cases the transposition not only affects the heart but also the liver and the stomach; in the other two cases (Cases 3 and 4) the heart is transposed, but the liver occupies its normal position on the right and the stomach is in its usual bed on the left side. Comparing now these objective phenomena with the individual symptoms complained of, the reaction to effort, and the response to strain both present and past, one realises how widely different in importance from the prognosis point of view the two types of the condition appear to be. In one variety we recognise an apparently satisfactory solution to the congenital anomaly. In the other it is evident that we are faced with a state of affairs totally inimical to even an ordinary degree of efficiency.

Conclusions.

1. In dextrocardia we recognise one of the rarer of the abnormalities of development which appear from time to time.

2. The significance of a right-sided heart entirely depends upon whether it is associated or not with simultaneous transposition of liver, stomach, and spleen.

3. Associated with complete transposition of viscera dextrocardia does not incapacitate and is usually diagnosed by accident.

4. Dextrocardia without transposition of viscera is of serious moment. Symptoms of incompetence are bound to appear sooner or later: these latter include dyspnœa, palpitation, insomnia, faintness, pain, &c., and result from a general visceral overcrowding, the liver impeding the movements of the heart and the upper lobes of the right lung.

5. Cases of dextrocardia without transposition invariably lay stress on the pains they experience both during effort and when resting; these pains depending upon the visceral overcrowding, are both local and referred, local when they denote pressure upon the intercostal nerves or brachial plexus, referred when the vagus or its intracardiac endings suffer inordinate stimulation.

6. Dextrocardia without transposition is usually, if not always, complicated by actual malformation of the heart and great vessels. In the fourth case above reported it was considered that the ventricular septum was perforate. Likewise we must be prepared to meet with other congenital derangements, pulmonary stenosis or atresia, transposition of great vessels, incomplete septa, patent ductus arteriosus, &c.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF
ACUTE PULMONARY ŒDEMA.

BY GUY J. BRANSON, M.D. LOND.

THE following case appears to belong to the class of acute pulmonary suffocative catarrh.

Mr. ——, aged 50, spare and active, was seen by me for the first time at 9.30 P.M. on August 6th. He stated that 20 years ago he had had rheumatic fever, and believed that "his heart had been affected." When examined by a recruiting medical board he had been totally rejected, because (he understood) of his heart; but he had never consulted a doctor, as it never gave him trouble. Earlier in this year he had been unwell for about one month with an indefinite illness, but had received only domestic attention. Otherwise he had led an active business life until this sudden attack, though he admitted not having felt so well as usual for about a week past. About an hour before I saw him he was, whilst playing the pianola, suddenly seized with violent palpitations, which made him retch (not cough) slightly, and he was alarmed to find that a little fluid which he brought up was slightly tinged with blood, but the palpitations were the outstanding feature in his complaints. I found him sitting in a chair. His appearance did not suggest grave illness, and he volunteered a long statement as to his condition. His mental clarity was quite unimpaired and remained so throughout. There was no cyanosis and no dyspnœa. Œdema of the legs was carefully looked for and was not present. The mouth temperature was 98° F. The fingers were markedly clubbed. The heart's action was notably violent, the whole præcordium and epigastrium showing a widely diffused impulse. The A.B. was in the sixth interspace, ½ inch external to V.N.L. The beat was irregular and tumultuous, and a loud-blowing systolic murmur was audible at the apex, and was conducted widely into the left axilla. It was clearly audible at the left scapular angle. No adventitious sounds were audible in the lungs. There was a trifling cough which brought up a thin watery sputum, faintly blood-tinged, and in very small amount. It appeared that fibrillations of sudden onset had supervened on an old mitral lesion, and that œdema of the lungs was starting.

At 9 A.M. on August 7th the heart was steadier. Pulse 120, action still violent, but vessels ill-filled. He again complained chiefly of palpitations which had prevented rest; and, although there was no notable dyspnœa, the breathing was a little more laboured. Fine, moist crepitations were audible over both lungs, back and front. There was now a troublesome cough, and he showed me a large teacup filled with pink, thin, serous fluid. At 7 P.M. he was obviously dying. The face and lips were pale, and there was now some slight distension of superficial veins. The chest was full of rhonchi, as the œdema had obviously involved the larger tubes. Death took place at 8.30 P.M., 24 hours from the onset.

In my view, the heart failed before the full asphyxiating effect of the pulmonary complication could come into operation.

References.—Sir J. Mackenzie: Diseases of Heart, third edition, p. 56, and Principles of Diagnosis and Treatment in Heart Affections, p. 184. F. W. Price: Diseases of Heart, p. 327.

Edgbaston.

A CASE OF
PERIPHERAL MULTIPLE NEURITIS
ASSOCIATED WITH PRIMARY MALIGNANT DISEASE OF THE LIVER.

BY T. DAVIES PRYCE, M.R.C.S.,
CONSULTING SURGEON, NOTTINGHAM GENERAL DISPENSARY.

THE following case appears to be interesting as pointing the lesson that when there are symptoms of sensory peripheral neuritis unassociated with diabetes and other known toxic causes, a careful search for malignant disease should be made.

J. B., female, aged 70. Eighteen months prior to her decease the patient began to lose flesh and complained of a slight degree of fatigue on exertion. Associated with these symptoms there was paræsthesia of both legs and hands. The subjective sensations of tingling and formication were well marked, but no definite loss of tactile or thermal sensibility could be detected. The knee-jerks were diminished, but the plantar and other skin reflexes were normal, as also those of the pupil. The blood pressure was normal. No organic disease was discovered. In the course of three months the patient complained of constrictive pains at the waist and the sensation of cold when the lower limbs were apposed. At nine months there was considerable anæmia and cachexia. Only slight patellar reaction could now be obtained, and there was some degree of ataxia, consisting of difficulty in maintaining the balance with the eyes closed and on sudden movement. In walking the sole of the foot was brought down flat to the ground, as in the early stages of some cases of locomotor ataxy. There was no "steppage," and no evidence of paralysis. The reaction to both continuous and interrupted currents was normal. At 15 months from the onset the patient complained of persistent pain in the hepatic region, and this was followed by vomiting, fever, and sweating, together with slight jaundice. These attacks (which were probably due to gall-stones) were repeated at varying intervals. The liver was irregularly enlarged and extended variably to 3 inches below the costal border. Slight patellar reaction on reinforcement. She gradually sank, dying on August 3rd. Unfortunately, a post-mortem examination was not obtained, but there can be no reasonable doubt as to the nature of her ailments.

The association of neuritis with cancer has been demonstrated by Auché, Oppenheim, and others, and in most instances—as in the above case—the poison appears to have exerted a selective action upon the sensory peripheral nerve fibres. Clinically, this case presented many features resembling those of diabetic neuritis reported by me in *Brain*, vol. xvi., 1893, but differed in the absence of diminished tactile sensibility and of perforating ulcers of the feet.

AN UNUSUAL CAUSE OF DEATH UNDER ANÆSTHETIC.

BY ERNEST PLAYFAIR, M.B., M.R.C.P. LOND.,
ASSISTANT ANÆSTHETIST, KING'S COLLEGE HOSPITAL.

ANY death under anæsthesia due to exceptional circumstances is worthy of being recorded, and the following case, if not unique, must at least be of very rare occurrence.

The patient was a young woman the subject of an incomplete abortion, and the anæsthetic was administered in order to empty the uterus. The general condition was good and the heart sounds normal, according to separate examinations by myself and the operator. The anæsthetic administered was A.C.E. mixture, the anæsthesia presenting no abnormal feature until the operation was nearly completed and the actual administration had been discontinued. An active corneal reflex had been maintained throughout. At this stage the patient suddenly became intensely cyanosed and ceased to breathe. With artificial respiration and dilatation of the sphincter breathing recommenced and was continued for a minute or two, but had no effect upon the cyanosis, which continued intense, and on inversion a considerable amount of blood escaped from the mouth. Further methods of resuscitation were unavailing.

The following notes have been kindly supplied by Dr. Bernard Spilsbury, who performed the post-mortem examination:—

Post-mortem.—Heart: Somewhat enlarged, mitral orifice narrowed; mitral valve, cusps thickened and contracted and partly united. Lungs: A little inhaled blood present at the backs of both lungs. There is some blood mixed with mucus in the air-passages from the larynx to the bronchioles. Spleen: Enlarged, congested; on microscopical examination congestion is marked, and there is increase in the number of cells normally found in the spleen, especially lymphocytes and phagocytic cells. There are also present cells resembling plasma cells and numerous nucleated red cells, suggesting a condition of anæmia before death. Alimentary canal: Mouth, tongue, and pharynx smeared with blood. At junction of œsophagus and stomach is a small round puncture in the mucous membrane with a dilated vein beneath the puncture—i.e., ruptured œsophageal varix. The stomach contains a little fluid mixed with blood; chronic gastritis is present. The other organs are normal. Cause of death: Asphyxia, due to the passage of blood from a ruptured œsophageal vein (varix) into the air-passages and lungs whilst under the influence of an anæsthetic.

There was no history of previous illness, nor of the occurrence of hæmatemesis, although Dr. Spilsbury points out that the condition of the spleen implies pre-existing anæmia, with the possibility of previous hæmorrhage as its cause. The hæmorrhage from the abortion had not been great. The escape of blood from the mouth, on inversion, suggested something uncommon as the cause of death, but diagnosis was, of course, impossible, and it is not easy to think of any available method of treatment which could have held out any prospect of success.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF SURGERY.

THE SURGERY OF THE PITUITARY GLAND.

A MEETING of this section of the Royal Society of Medicine was held on Dec. 3rd, Sir JOHN BLAND-SUTTON, the President, being in the chair, when Mr. PERCY SARGENT opened a discussion on the Surgery of the Pituitary Gland, in which he suggested for discussion a certain number of points connected with the surgical aspects of the diseased gland. He realised how much had yet to be learnt before operative treatment of pituitary lesions could be established upon a firm basis. Disease of the gland might manifest itself in many different ways, and the patient might be brought in the first place to the ophthalmic surgeon, the physician, the pediatrist, the neurologist, or the gynæcologist. Lesions of or implicating the pituitary gland gave rise to symptoms which fell into three groups: (1) those dependent upon disordered function, whether in the direction of excessive or of deficient activity or of a combination of both; (2) those which resulted from an increase of the general intracranial pressure; and (3) those due to pressure upon neighbouring structures, particularly the optic chiasma. Tumours which caused pituitary symptoms did not necessarily arise in the gland; interpeduncular tumours, frontal lobe tumours, and growths involving the base of the skull might cause pressure upon it and the surrounding structures, whilst symptoms due to disordered pituitary function were also met with in hydrocephalus. He dealt firstly with the question as to what effects upon the symptoms of pituitary disease were to be expected from operative treatment, and secondly, what was the best method of attack.

Symptoms.

Glandular symptoms.—It was now commonly believed that gigantism and acromegaly were manifestations of excessive activity of the pituitary gland, whilst infantilism, adiposity, and impotence resulted from deficient activity, and that there was thus an analogy with the corresponding disorders of the thyroid gland. In both cases the symptoms of excessive or deficient functional activity might merge into one another. Further, both thyroid and pituitary tumours caused symptoms due to pressure upon neighbouring structures. He was unable to express an opinion as to whether or not an operation for glandular symptoms alone was justifiable. Cushing had related two cases in which he operated on account of glandular symptoms and headache. In one case there was immediate cessation of the headaches, and later a marked change in the patient's appearance. In the other a subtemporal decompression afforded no relief of headache, but later some improvement was noted after a course of whole-gland extract to the extent of 100 grains a day. In a third case the predominating signs were those of deficient glandular activity. Treatment by glandular feeding was carried out for a time with some slight improvement, but later the headaches became more severe and the vision began to fail. A sellar decompression was then done, with prompt cessation of the headache. He himself would hesitate greatly before attempting the experiment in a patient with little or no enlargement of the sella, in whom neither headache of any severity nor neighbourhood symptoms existed. In the opposite class, with a large sella easily accessible through the nose, and with a progressive Fröhlich syndrome, the operation might be more readily undertaken. It was possible that the relief of pressure upon any remaining normal gland tissue afforded by the emptying of a cyst, by the removal of a mass of adenomatous tissue, or by merely incising the dural capsule, might be beneficial.

Symptoms of increased intracranial pressure.—The onset of general pressure symptoms marked the beginning of the terminal stage. A simple decom-

pression operation would abolish the headache due to general intracranial pressure but could not be reckoned upon to relieve the "bursting" frontal pain due to sellar distension. In those cases which showed papillœdema, subsidence of the swelling was to be expected after decompression. It was probable that a simple decompression operation would prove a useful, if not an essential, preliminary measure before making an attack upon a pituitary tumour.

Neighbourhood symptoms.—It was chiefly for visual disturbances that the pituitary region had hitherto been subjected to surgical interference. According to Cope, operation or post-mortem examination on cases of this description revealed a large intracranial extension, and he concluded that all pituitary tumours which came to operation for symptoms other than acromegaly had long before burst the bounds of the fossa.

Nature of Pituitary Tumours.

The majority of the tumours which arose in or primarily involved the pituitary gland appeared to be of an adenomatous character, and were called by Cushing "chromophobe struma"—that is to say, an adenomatous hyperplasia characterised by deficiency or absence of the eosinophile granules which seemed to be associated with functional activity. Of three series of cases quoted 62 per cent. of the tumours subjected to operation were of an adenomatous nature. Another kind of tumour, not arising in but secondarily affecting the gland was the supra-pituitary endothelioma. Although he thought it was impossible to extirpate a solid pituitary tumour completely (so far any removal that had been accomplished had been only partial), nevertheless a sufficiently large part of such a tumour could be removed to afford some relief, at any rate for a time.

Methods of Approach.

These fell into two groups, the *extra-dural*, including transpalatal, nasal, and paranasal operations, and the *intra-dural*, comprising the temporal and frontal. At present the two methods of approach which held the field were the nasal and the frontal. Of the former the trans-sphenoidal operation of Cushing was probably the best; of the latter the orbito-frontal operation of Frazier might be taken as the type. Although rival methods, neither should be altogether rejected. In time it might be possible to make a sufficiently accurate diagnosis to enable one or other to be selected for any individual case.

Mr. Sargent then described Cushing's nasal operation and that of the frontal route, and related his own experience of 14 cases on which he had operated, six of them by the nasal route, and seven by the frontal route. In attempting to make a fair comparison between the two methods he said that we ought to bear in mind not only the route of approach, but also what could be accomplished when the objective had been reached. The nasal route presented several disadvantages. It was narrow and unclean, and the difficulties might be increased by acromegalic deformity of the bones. Even in the most favourable circumstances very little room could be obtained for dealing with a solid tumour, and when (as was always the case when chiasmal pressure was present) there was an intracranial extension, it was only the smallest part of the tumour which could be attacked. The relief afforded by removing this part of the mass or even by evacuating the contents of a cyst was small and transient. On the other hand, the frontal operation was free from risk of meningeal infection, and allowed the intracranial part of the tumour to be inspected and dealt with. Its chief dangers were that the frontal lobe might be injured, and that serious or even fatal hæmorrhage might occur. The latter depended upon the fact that the circle of Willis was stretched out around the tumour, and so might easily be damaged. If these dangers could be avoided a much more radical and efficient operation could be accomplished. From his own experience and from a study of the literature on the subject he had come to the conclusion that the beneficial effect upon vision of partial removal of a pituitary tumour through the nose or of merely allowing it to bulge downwards into the sphenoidal sinus was uncertain, inadequate, and transitory. The effect upon severe headache due to sellar distension was more uniform and might be very striking, but there was a tendency to recurrence. Of the effect upon glandular symptoms it was less easy to form an estimate, the more so as practically all the cases were treated at the same time with large doses of pituitary gland extract.

Importance of Early Surgical Treatment.

Until some medicinal form of treatment had been devised which was capable of arresting the growth of such a common variety of pituitary enlargement as the adenomatous hyperplastic tumour, it was to surgical treatment that we had to look at the present time for the relief of symptoms due to tumours of, or in the neighbourhood of, the pituitary gland. He urged that if surgical treatment was to be given a fair field it should be applied at an early stage, and not merely as a last resort in cases rapidly advancing towards a fatal termination. The existence of a high degree of intracranial pressure due to the invasion of the cranium undoubtedly increased the risks of a surgical attack upon the pituitary tumour, just as in all other cases of cerebral tumour. He looked forward to the time when headache, vomiting, and papillœdema would no longer be regarded as symptoms of cerebral tumour, to be expected and awaited before operation was proposed, but as signs of impending disaster in neglected cases. There was no reason why pituitary tumours should not be diagnosed at a very early stage, for with them we had many sources of information in radiography, examination of the visual fields and optic discs, and all the symptoms which might be due to abnormalities in the glandular function. Whatever advance in pituitary surgery might take place in the future, it was to be looked for in three main directions: firstly, in earlier and more accurate diagnosis; secondly, in a better understanding of the objective to be aimed at in every individual case, so that the most suitable surgical procedure might be selected; and thirdly, in the improvement in the technique of the intracranial operation.

Discussion.

Dr. HOWARD TOOTH spoke from the point of view of the physician. He had been anxious to find some evidence as to whether the expectation of life were better with operation or if the pituitary tumour were left alone. He had traced seven cases and found that the average time which had elapsed since the appearance of the first symptom was 7·5 years. The survival period of operation cases was 5·13 years. The symptom above others which called for operation was severe and recurrent headache. He described cases in which headache and polyuria had been relieved.

Mr. V. Z. COPE described a case to illustrate the difficulties in diagnosis. There was a large tumour with erosion of the sella turcica. Temporal decompression was done, and a large tumour of the lateral ventricle was found which was pressing upon the pituitary gland. He thought that the surgical outlook was not quite so bad as the last speaker had indicated. Much could be done to relieve the blindness. He spoke of a case of increasing blindness in a dancer; after operation the vision improved and giddiness was so much relieved that the man was able to return to his calling.

Mr. J. HERBERT FISHER said that it was impossible to decide by ophthalmoscopic examination when recovery of the optic nerve could take place. Even with advanced atrophy and with poor vision recovery of function might follow. Speaking of organo-therapy, he related a case which had been treated by administering thyroid, in which the visual field and direct vision had much improved, although later the vision had again deteriorated. In another case administration of thyroid and pituitary extract had led to decided improvement. In cystic cases there were usually adenomata as well. The solid growth was probably progressive.

Dr. F. R. B. ATKINSON said that few cases of acromegaly, due to adenoma, had been operated upon, yet in

this condition the expectation of life was good. Most of the patients operated upon had died; in a few the general condition had improved, though the extremities had not become smaller.

Mr. W. G. HOWARTH thought that there was something to be said for the trans-sphenoidal route. It was simple and gave a wider view than Mr. Sargent would have us believe. Another advantage was that if the tumour proved to be malignant it was possible to insert radium afterwards. If cases were seen early it was useful as a preliminary to more severe operations.

Mr. E. D. D. DAVIS thought that the trans-sphenoidal route was unsatisfactory. The opening was small and there was a danger of entering the anterior fossa.

Mr. SARGENT, in reply, agreed that in some cases the headache was of a most distressing character, and something had to been done to relieve the patient. If ophthalmologists could give the surgeon some indication as to the prospects of return of vision, it would be easier to decide upon the value of operation. The cases which improved under glandular treatment were those with hypoactivity, for this could be compensated for by oral or hypodermic administration.

SECTION OF OBSTETRICS AND GYNÆCOLOGY.

THE TEACHING OF OBSTETRICS AND GYNÆCOLOGY TO MEDICAL STUDENTS: DISCUSSION ON THE REPORT.

A MEETING of this section of the Royal Society of Medicine was held on Dec. 4th, with Mr. J. D. MALCOLM, the President, in the chair, to discuss the recently published Report on the Teaching of Obstetrics and Gynæcology to Medical Students and Graduates in London.[1]

The PRESIDENT having said a few words about the genesis of the movement for better obstetric and gynæcological teaching,

Dr. T. W. EDEN made a statement amplifying certain clauses in the report made by the committee appointed to consider the question. He said that the training of students in midwifery was largely determined by the requirements of the examining bodies, and he pointed out the astonishing fact that the Universities of Oxford and Cambridge are the only examining bodies which have attempted to comply with the regulations of the General Medical Council. Dr. Eden said that there was no doubt that on the whole the training of our students was really bad; nothing more unsuitable than the district conditions could possibly be devised. The present inequality of teaching as between one hospital and another was, moreover, one of the weakest points in the medical education of London. The members of the teaching committee had no preconceived opinions on the subject of reference, and he would like to explain how they arrived at the recommendations made. In the first place, they were satisfied that present conditions are so bad that only drastic and far-reaching changes would suffice. It was no use tinkering at the present system. In the next place, it was obvious that the amount of time allotted in the curriculum to midwifery and gynæcology was quite inadequate and would have to be largely increased. The next step was that proper training in practical midwifery could only be given in hospital. If these principles were to be carried out it was clear that a very large increase in the hospital accommodation for midwifery cases was required. Fortunately, this was required not only from the educational point of view, but also in the public interests. In the next place, they thought that midwifery training should be extended in both directions—i.e., so as to include a fuller view of pregnancy by means of the antenatal clinics, and a fuller training on the management of the infant through the infant welfare clinics. Lastly, they had formed the conclusion that the senior obstetric teachers ought to take a very much larger share in the practical teaching than at present. The next question the committee had to face was, could these principles be put in practice with our present institutions? First of all, they turned to the lying-in hospitals and after consideration had come to the conclusion that they would not do. In the first place, they were needed for the training of midwives, the supply of which was quite inadequate. In the second place, the practical instruction in normal labour in these institutions was all given by midwives. It was against the regulations of the General Medical Council that students should be so taught, and the committee were quite in agreement with these regulations. Dr. Eden explained how the next alternative considered was the creation or expansion of the midwifery ward in the general hospital, and that one of the objections to its adoption was that only the largest hospitals could give up the required number of beds. The committee were then driven to the further alternative of advising the establishment of institutions of a type new to London but similar to the Rotunda Hospital in Dublin. Dr. Eden said that a study of the report on the Maternal Mortality of Childbirth issued by the Local Government Board in 1915 showed that the death-rate was highest in districts where there was least hospital accommodation, and vice versa. There was, therefore, every reason to believe that the increased provision of maternity hospitals would have a very beneficial effect upon the mortality in connexion with childbirth. In the criticism against the isolation from other branches of medicine Dr. Eden reminded the members that the outlying districts which required midwifery accommodation required general hospital services, too, and in all probability general hospitals would be built simultaneously with the provision of such centres. In addition, it was the view of the committee that schools unable to provide a large midwifery department should be affiliated to the new centres. As regards the teaching of midwifery, the committee believed that it could only be properly taught if senior teachers would give practically their whole time to it for a series of, say, five years, during which they would be in residence in the teaching centre. Dr. Eden emphasised the need for agreement between medical men in order that they might be in a position to take their share in directing the changes that were inevitably coming, and not have to submit to changes imposed upon them by others.

Criticism of the Report.

Dr. HERBERT SPENCER then read the following criticism, for which Lady BARRETT, Dr. H. WILLIAMSON, and himself were jointly responsible, of the report of the Committee:—

We endorse the sections of the report dealing with the deficiencies of the present system of education in obstetrics and gynæcology and wish to express our indebtedness to the Committee for their clear and outspoken review. We agree fully that reforms are urgently needed, but we do not think the system proposed is the best that can be devised.

Although an intermediate phase is suggested the ultimate goal of the Committee is a system of education based upon two essential principles: (1) The establishment of large centres devoted solely to the study of obstetrics and gynæcology and not forming part of a general hospital and medical school; (2) that the student can only be educated efficiently when large masses of clinical material are available.

We think these two principles are wrong. We believe that the obstetric and gynæcological clinic should be part and parcel of a general hospital and medical school. These subjects are only one part of general medicine, and are intimately connected with every other branch. From the point of view both of the student's education and the advancement of the science they should be kept in the closest possible touch with other branches of medicine; the student should not be taught to regard them as something separate and distinct. There is no essential difference between puerperal infections and other wound infections; the fact that cardiac disease complicates pregnancy does not put it in a new category, nor is pyelitis of pregnancy a disease sui generis.

Close coöperation should exist between the gynæcologist, the pathologist, the surgeon, and the physician; such coöperation is only possible when the obstetric clinic forms part of a general hospital both geographically and constitutionally. It is essential that the help of specialists in every branch of medicine should be available—a radiologist, a neurologist, a chemical pathologist, a physiologist, a bacteriologist, a morbid anatomist, and an ophthalmologist, to mention only a few. Consultations should be frequent and should take place at the bedside of the patient in the

[1] THE LANCET, Sept. 13th, p. 494.

presence of the student. By such consultations the student is taught the essential unity of medicine and the application of general principles to special problems. The consultants learn much from one another and the patient is benefited. This close coöperation can only be obtained within the walls of a general hospital.

We do not think very large quantities of clinical material are essential for the education of the student. The clinic need not be a large one. The minimum requirements are: (1) An out-patient pre-maternity clinic; (2) a few (say six) pre-maternity beds; (3) a lying-in ward of not less than 20 beds; (4) a few (say four) beds for septic cases; (5) an out-patient maternity district adequately supervised; (6) an infants' welfare centre—preferably a branch of the children's department; (7) a gynæcological ward of 25 to 30 beds with operating theatre; (8) a well-equipped clinical laboratory; (9) a room for storage and investigation of morbid anatomical material.

The staff of such a clinic should consist of: (1) Three visiting obstetricians, all of whom should teach both obstetrics and gynæcology. (2) A resident officer of the standing of a resident assistant surgeon or physician. He should hold office for a period of not less than three years, and should be responsible, under the direction of the visiting staff, for the practical instruction of the students in the lying-in ward, and should also be responsible for seeing that the pathological work of the clinic is carried out. This officer should receive a salary of not less than £500 per annum. (3) A registrar and tutor. (4) Two resident officers of the standing of house physicians or house surgeons.

We believe this system to offer many advantages to the student, the school, and the public over that of the whole-time officer proposed by the Committee. The system of teaching large classes of students by means of lecture demonstrations produces a practitioner inferior to the one produced by a system which aims at the instruction of the student individually by the bedside of the patient. A few cases adequately investigated and well demonstrated teach the student more than many cases hurried over.

We think it desirable that obstetrics and gynæcology should be taught as one subject, should be taught by the same teachers, and that the student's studies in the two branches should be carried on simultaneously. We think that the clinic should remain essentially a part of the general hospital, and the whole course in obstetrics and gynæcology should be taken in one school.

We think that every medical school should have its own lying-in ward. At the present time this appears to be impossible in the case of some of the smaller schools, and in our opinion the deficiency would best be met by amalgamation. One or two new hospital centres in out-lying parts of London might be formed in the near future by coöperation amongst themselves of the smaller teaching hospitals, and by association of their plans for expansion with State schemes of hospital provision. This would involve the sacrifice of their present central positions and the fusing of two or more hospitals and their staffs in the creation of the new hospital. The medical school would still be retained, and its students would have the advantages of modern and efficient hospital equipment, of adequate buildings, of working in a district where the need was great, and of a consultation service with local practitioners. The funds obtained by disposal of existing hospital sites supplemented by State grants would be used for building, equipment, and endowment of the new hospital.

It is likely that under the Ministry of Health obstetric and gynæcological institutions will be established in outlying districts of London, probably as parts of new general hospitals. If these institutions are staffed on the principle suggested by the Committee they will form centres for research and post-graduate work. Such institutions will be of the greatest value and are urgently needed.

We think that the director of clinic of these new institutions should hold office in most cases for a limited term of years, and on his resignation of the post be eligible for the staff of the hospitals with medical schools. The experience and skill he gained as director would then become available for the general public and for the education of medical students.

The Report and the Criticism Compared.

Dr. Spencer then asked permission to say a few words on his own behalf. He pointed out that both documents agreed on the necessity for more beds and for more time to be allocated to gynæcology and obstetrics in the student's curriculum, but disagreed on the question of close association with general hospitals. He considered that not enough credit had been given to the senior men for the time they spent in teaching. He himself had given up one afternoon a week for the last 25 years in order to teach students the important and difficult task of the investigation of the position of the child. Dr. Spencer doubted whether sufficient patients would be forthcoming to fill a large obstetric institution, as it was sometimes difficult now to fill wards. The report had been in favour of allowing the resident director to practise privately. He was against this concession, as the same man could not be available for both hospital and private emergencies. A director who was in general control of the work of an obstetric institution of large size, who took a large share of the administrative work, did most of the operations, was responsible for much of the teaching, was expected to undertake research, and still remained in private practice, would be a very busy man! The suggestion that the staff should take on the post of director in rotation would surely lead to difficulties, since a junior man might be in temporary control of one much senior to himself.

Inadequate Knowledge of Midwifery.

Dr. RUSSELL ANDREWS quoted some cases in his own experience as examples of the inadequate knowledge of the first principles of midwifery exhibited by many general practitioners. He said that in the East End obstetric tragedies were still terribly common—preventable tragedies, due mainly to hurry and ill-applied force. He said that cases were sent up to hospital time after time as obstructed labour, the forceps having failed, when the only obstruction to be found was the incompletely dilated cervix. Dr. Andrews pointed out the difference between surgical and obstetrical practice as regards operations. Surgical operations, except minor ones, are not left to newly qualified residents. Most obstetrical operations, on the other hand, are carried out only nominally by the visiting staff and are actually performed by the residents. In consequence young practitioners often feel confident of their power to tackle midwifery cases, though they would not dare to attempt simple surgical operations. Dr. Andrews said that he was not blaming the overworked and inadequately paid doctor; it was his misfortune, not his fault, that his midwifery training was even more inadequate than his fee. A woman in labour would often be safer under the care of a midwife than under that of a doctor, as he might have been imperfectly trained, whereas the midwife, who had seen labours conducted in hospital, had learnt the virtue of patience. If students were to be taught properly there would have to be on the spot a man who had had a thorough training in midwifery, to deal with a certain proportion of the normal cases and, in the absence of one of his seniors, with all the abnormal cases. He would have to regard this as his real job—not as a nominal job to be sandwiched in, if possible and convenient, between half a dozen other jobs. Such a man could not be obtained, nor given an adequate salary, if all his energies were to be expended on 15–20 beds. A larger number of beds must be procured even if the undoubted advantage of close geographical association with other specialists had to be sacrificed.

Professor HENRY BRIGGS (Liverpool) expressed himself as being profoundly impressed with the difficulties of rearrangement of work in London as opposed to Liverpool, where existing conditions were not so deeply rooted. He would have liked to see obstetric and gynæcological wards in all general hospitals, but he saw that the problem was very complicated. The report and the criticism thereon formed complete evidence of the need of some drastic alterations and he wished it were possible to accept both schemes.

A Barren Alternative Report.

Dr. J. S. FAIRBAIRN said the remedies suggested in the criticism on the report were the obvious ones as a first stage. But the suggestions were much the same as those in the Williams report (1906). The criticism was really a barren alternative report—barren because the conditions specified were no better than those existing already in some medical schools. He considered that the critics had started from the wrong standpoint—that of the four walls of the medical school as a unit. The number of beds required simply could not be supplied by the hospitals connected with medical schools, so the critics were constrained to prove that a mass of material is a disadvantage. In his opinion a

large number of beds were absolutely necessary on account of the small proportion of abnormal cases. The staff recommended in the alternative report was substantially the same as that suggested in the report of the committee, with the addition of an unnecessary director at £500 a year. Dr. Fairbairn, who had personal experience of the scheme in the alternative report, had thought before sitting in committee that it was the best obtainable, but he was now convinced that its universal adoption would be impracticable, and that, moreover, no general hospital could give such conditions as were necessary for a first-rate midwifery education for students, though fully appreciating the difficulties connected with separation.

Lady BARRETT pointed out that whereas Dr. Eden had shown the two parties in how many ways they were agreed, Dr. Fairbairn had unfortunately dwelt mainly on their differences. The writers of the criticism were, indeed, in agreement with most of the report, but felt strongly that while there was an undoubted need for lying-in hospitals in outlying parts, and while post-graduates should be admitted for study in such institutions, undergraduates should be taught in general hospitals. The weak points of the report were that first slender threads were proposed as bridges between existing teaching hospitals and obstetric institutions, and next it was suggested that new hospitals would probably be needed in connexion with these institutions.

Dr. W. S. A. GRIFFITH said that a better chance of reform would exist if the two parties tried to meet on common ground. The essential difference between them concerned the means of providing necessary beds. By those who suggested the addition of large maternity wards to teaching hospitals no hint was given as to how the hospital could provide them. They were, in fact, suggesting an impracticable scheme. He was surprised to hear from one of the speakers the suggestion that it might be difficult to fill beds, as in his experience there was a large demand for them. Two new small hospitals reserved for the teaching of midwives had recently been completed, and since others were in contemplation the provision of beds for the teaching of medical students should be undertaken as soon as possible. The opinion of general practitioners on a subject which concerned them so nearly should be sought.

Problems to be Attacked.

In the unavoidable absence of Dr. HERBERT WILLIAMSON, his contribution to the discussion was read by Dr. J. S. FAIRBAIRN. Dr. Williamson emphasised especially the disadvantage of removing the study of obstetrics and gynæcology from a general hospital to a special institution. The treatment of malignant disease, of gonorrhœa in women, and of the toxæmias of pregnancy, and of the whole field of radium therapy as applied to gynæcology, were among the many problems which should be attacked simultaneously by many workers along different lines but in close mutual touch. He referred to the importance of teaching the student to take a broad view of medicine, to realise how closely the different parts hang together, and how the advance of one branch is dependent on that of every other branch; and he expressed the conviction that the isolation of obstetrics and gynæcology would destroy this sense of unity. He held that post-graduates alone should be encouraged to work in the special institutions recommended in the report. Dr. Williamson held, moreover, that it was not the function of the senior teacher to guide the hands of the student in a series of labours; he should lay down the routine and found the traditions of his labour ward whilst one of his junior officers, who had held the post of intern, was engaged in obstetrical research, and was a whole-time man appointed for not less than three years, should watch the student conduct the labour and instil into him by example and precept the teaching of his chief.

Need for Expert Advice.

Sir ROBERT MORANT said that the Ministry of Health needed the expert advice of doctors on several very important points. In the survey made of the number of beds required for teaching purposes no mention was made of material at present available in existing institutions. Much thought was being given to these problems, which affected the provinces as well as London. The provision of beds at present was quite haphazard—not at all in proportion to the public need. If the provision was to be systematic in the future the survey would also have to be systematic, and existing facilities for the accommodation of women in labour would have to be reckoned with. Moreover, no one section of hospital provision could wisely be considered by itself. Teaching was very important, but the whole of the existing hospital system would have to be analysed. Some suggested that patients were kept in town unnecessarily long, that convalescents at an early stage should be moved by motor ambulance to the periphery. The provision of hospitals where needed was a huge problem in itself, and was becoming complicated as regards maternity patients by the establishment of antenatal centres. The Ministry of Health was already being asked to provide beds in connexion with these centres. Sir Robert Morant agreed with Dr. Griffiths that there should be no difficulty in finding patients to fill the beds. Small lying-in hospitals with 20 beds in connexion with welfare centres might be more useful in training midwives than students; but, speaking as a layman, he urged the profession to take these hospitals into consideration when estimating the beds required. The trouble was that members of the medical profession, like those of other professions, differed among themselves, but he thought that a considered scheme on the whole problem of the provision of hospitals was disastrously overdue. He urged the members of the section to invite their colleagues in other branches of medicine to collaborate with them in forming such a scheme. Small lying-in hospitals of 20 beds were usually arranged by the adaptation of existing dwelling-houses, because this was the easiest way from a layman's standpoint. Sir Robert Morant commented on the agreement of all concerned on the necessity of the same roof for teaching of midwifery and gynæcology, and asked how far such a doctrine would be preached. He emphasised again the need of a clear lead from the profession in these problems. London was a specially difficult area to tackle, as its hospital accommodation was under so many different authorities, but the whole question must be considered together in the same way as that of all the schools had had to be considered together. The Ministry of Health was there to dispense money in connexion with the schemes of the local authority, but was also ultimately responsible for the whole metropolitan area.

Dr. AMAND ROUTH suggested that Sir Robert Morant might help them in using the infirmaries and Poor-law institutes for teaching purposes.

Mr. GORDON LEY said that there should be no deficiency of material since the population of London is greater than that of the whole of Ireland.

Two Questions for Consideration.

Dr. G. F. BLACKER said that this section was concerned with two main problems. The first was how to increase the number of lying-in beds to meet the public need, and the second was how to increase the facilities for teaching. As regards the first problem, the present provision was so inadequate as to form an utter scandal. Four institutions such as proposed in the report could easily be filled—there was ample material. A bed should be available for any woman who desired to be confined in a lying-in hospital. In some districts no such hospitals existed. However, this was a matter for the local authority and the Government. The second problem, of how to improve the teaching, was the one which primarily concerned the doctors. The teaching of obstetrics as compared with that of surgery was admittedly bad; all were agreed that the student did not get the same quality of teaching of operative procedures and, in fact, did not receive as good value for the fees he paid. Under the alternative report presented in the criticism, the resident in charge of the lying-in hospital would get £500 a year instead of £150 and the teaching would be no better, as it would still be given

by men of the standing of registrars and by other residents. The contrast with other subjects in which the staff themselves teach the students would still be maintained. If large centres were started, whole-time directors should, in Dr. Blacker's personal opinion, be appointed, with an adequate salary and proper facilities, comparable to those of other clinical units. He concluded by the statement that there was really little difference between the report and the alternative in the criticism, but that the report was much the better of the two schemes.

SECTION OF OPHTHALMOLOGY.

Exhibition of Cases and Specimens.

A MEETING of this section of the Royal Society of Medicine was held on Dec. 3rd, Mr. W. T. HOLMES SPICER presiding.

Mr. G. POTTS showed a case of Keratitis following an explosion of black powder. The powder had scorched the cheeks and eyes, and nothing could be seen of the conjunctiva or sclera or cornea as separate structures. The boy was placed under cocaine, and sclera and cornea cleared. Improvement was setting in, and the vision of the right eye was 6/6, of the left 1/6. He also showed a patient with Detached Retina and an Unusual Condition of the Conjunctiva. In 1900 the patient contracted rheumatism while in the South African War, and had frequently had rheumatic attacks since. The eye trouble dated from April, 1914, commencing with iritis in the left eye. The right conjunctiva was thickened and swollen, the sclera œdematous and thickened, and had a fatty appearance.—Dr. A. HUGH THOMPSON thought the signs pointed to a new growth, and that the nature of it was tuberculous.—The PRESIDENT said it reminded him of the appearances in some syphilitic cases.—Mr. POTTS said he had not had a Wassermann done.

Mr. MALCOLM HEPBURN exhibited a patient with an Aneurysmal Varix of the Cavernous Sinus. He brought the case in order to elicit opinions as to whether anything further could be done. The man had had his common carotid tied, and vision in the proptosed eye was at present 6/6, but the patient was troubled with noises in the head. Some people said tying the angular vein or other prominent vein did as much good as tying the common carotid. He felt sceptical about that, but the man had a dilated supra-orbital vein, and he wondered whether anything could be done to that.—Mr. CHARLES HIGGENS spoke of a case in which a prominent vessel, not the carotid, was tied and the patient was cured.—Mr. PERCY FLEMMING spoke of five cases in which tying the carotid was carried out, and in which the hæmorrhage was very severe, and in consequence of that experience he advocated withholding anything further unless the case got worse.—Mr. J. H. FISHER said in some cases the carotid was injured in fracture of the base of the skull, while in others the artery might burst spontaneously on account of atheroma, and the treatment followed would depend on which category a case came into. If ligation were decided upon it was most important that the patient be kept at rest in bed for a long period after it had been performed. He thought at present such patients were discharged too quickly.—Mr. R. R. CRUISE related a case of his own in which several vessels had been tied in the effort to relieve the distressing head symptoms following gunshot injury, symptoms which made the life of the man practically unbearable.

Mr. GOULD showed a case of Tumour of the Choroid and Mr. OLIVER a Gunshot Wound of the Left Eye, leaving a very large orbital cavity, which he reduced to a size to enable it to take an artificial eye by transplantation of rib cartilage.

The Need for Ophthalmic Physicians for the Advancement of Ophthalmology.

Dr. C. O. HAWTHORNE opened a discussion on Dr. Rayner Batten's paper on this subject, which appeared in THE LANCET of Nov. 29th (p. 962). He said the paper of Dr. Batten was as interesting as it was unconventional. It was unusual, even unprecedented, to see a surgeon clothing himself with sackcloth and ashes. He (the speaker) had said on more than one occasion that a considerable part of the field of ophthalmology required not the art and craft of the surgeon, but the diagnostic and therapeutic methods of the physician, and he had then been severely criticised for the statement. With the general spirit and motive of the paper of Dr. Batten he was in agreement, but he did not quite agree with the proposed name "ophthalmic physician," and he would equally object to be known as a non-ophthalmic physician. He did not pretend to say whether the coöperation of physician and surgeon in such conditions as conical cornea, detachment of retina, and cataract would be fruitful, but that feeling of uncertainty did not apply to cases in which defect of sight was an evidence of nervous disease, cardio-vascular disease, disease of the kidney, and of the blood. The symptoms he had in mind were ocular paralyses, disturbances of the pupil, the cycloplegias, optic neuritis, optic atrophy, cases of retinitis, and retinal and other intraocular hæmorrhages. Each one of these required the investigating methods of the physician. It was a mere accident which led the patient to go, in the first instance, to the ophthalmologist or to the ophthalmic hospital, and if the cases were to be treated adequately in ophthalmic hospitals, those institutions must have the requisite equipment, beds, nurses, and medical staff. He did not think the position taken up by Dr. Batten in his paper could be challenged; it concerned the good repute of the profession, the progress of scientific medicine, and the welfare of the individual patient.

Mr. CHARLES HIGGENS pointed out that the custom when a general practitioner sent a case to the oculist was to report the result of his investigation and state what specialist ought to be seen, while in hospital work the same relegation to the proper man was carried out.—Mr. W. LANG agreed with Mr. Higgens.

Mr. ERNEST CLARKE said London was the only place which insisted that the staffs of ophthalmic hospitals should consist of fully qualified general surgeons. The remedy for the present position of matters was, he declared, to urge the ophthalmic students of the future to learn more general medicine; the great need was for the oculist to be able to diagnose the various conditions which had been mentioned, so as to ensure the patient getting to the right man. The solution would be found in a broader range of education.

Mr. E. TREACHER COLLINS did not consider Dr. Batten's presentation of the position was either pleasing or true to nature. The speaker sketched the gradual displacement of physicians by surgeons on the staff of the Moorfields Hospital since 1804. Those who had been ophthalmic surgeons to a general hospital knew that much of their time was spent in the medical wards helping the pure physician, who had not troubled to learn the use of the ophthalmoscope, in the diagnosis of his cases. The present discussion hinged largely on a question of name. Certainly ophthalmic surgeons were called upon to deal with more than surgical cases. As knowledge advanced, there was an inevitable tendency to split it up into departments, and that meant that there were borderline cases which were liable to be overlooked by rigid devotees to one department or the other. It was, therefore, an advantage to have men to take up two branches, constituting a kind of liaison between the two. There was really need for an ophthalmic physiologist, for an ophthalmic pathologist, for an ophthalmic mathematician; but the greatest need of all was the complete ophthalmologist, by which he meant, the man who was eager to know everything which could be known about any disease in which the eye could be affected.

Mr. A. W. ORMOND contended that the London M.D. should be regarded as equally valuable for a post on an ophthalmic hospital as the London M.S. But he would object to ophthalmic staffs being divided into those who operated and those who did no operating at all. The need was for the specialism to be broader, not narrower. He reminded the meeting that surgeons in eye work not infrequently referred cases to the physician fruitlessly. Men should be given more time for the study of

the medical side; at present the younger members of staffs were inundated with refraction work.

Mr. LEIGHTON DAVIES (Cardiff) thought one of the glories of the specialty was that it required a wide view of the field of medicine and surgery.

Mr. J. H. PARSONS thought that the chief value of Dr. Batten's paper was the stress it laid on the feeling many ophthalmologists must have that they were not as fully qualified to deal with the medical as with the surgical aspects of their cases.. The ophthalmologist ought to be able to deal with physiological optics and the relationship of ophthalmology to industrial conditions. The essence of the discussion was the breadth of view which should be capable of being taken, and he emphasised Mr. Collins's point that those who worked at the specialty were ophthalmologists—neither physicians nor surgeons specially as such. To evolve better ophthalmologists meant that those who entered the ranks would have to study all branches of the subjects to the fullest degree, and the opportunities for this must be increased; at present they were faulty in many directions.

Dr. A. S. COBBLEDICK foresaw difficulty in the allocation of cases if both surgeons and physicians were on the staffs.

Dr. BATTEN briefly replied.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

DEMONSTRATION OF CASES AND SPECIMENS.

A MEETING of this section of the Royal Society of Medicine was held on Nov. 28th, Mr. P. LOCKHART-MUMMERY, the President, being in the chair.

Chronic Jaundice.

Dr. EDMUND CAUTLEY showed a case of Chronic Jaundice with Congenital Defect of the Bile-ducts. The patient was a male infant, an eighth child, and born in February at full time and apparently healthy. Jaundice appeared on the fourth day and had persisted. Admitted to hospital from April 4th to 12th and from Sept 18th to Nov. 23rd. At first he was breast-fed, well nourished, 9½ lb. in weight, jaundiced, and presented acholia, bilinuria, and a large liver. The degree of jaundice varied. He was readmitted with a temperature of 103° F., falling to normal next day. He weighed 13 lb. There was a history of diarrhœa and vomiting for two days, but neither symptom occurred after admission. Jaundice was still present, but had been clearing up recently. The liver was large and hard, and the spleen enlarged. During his stay in hospital he had a variable degree of fever, due to bronchial catarrh. Acholia and bilinuria had been persistent and the weight had varied from time to time, according to the amount of catarrh and his appetite for food, which consisted of milk and water, with Horlick's malted milk and Benger's food. The liver had decreased somewhat in size and had become harder and irregular; the spleen had got larger and harder. The Wassermann reaction was negative. The case was interesting from the point of view of diagnosis and the duration of life. Dr. Cautley was disinclined to think it one of cholangitis, in view of the absence of febrile disturbance in the early stages. On the other hand, most cases of congenital obliteration of the bile-ducts only lived six to eight weeks. Life was, however, sometimes prolonged for eight or nine months. Dr. Kenneth Kellie showed a patient of this type in 1911, a male baby aged 5 months, who died subsequently at 7 months of age, and had a large, smooth, green liver, a hard spleen, a rudimentary gall-bladder, and a common bile-duct represented by a fine cord. Slight jaundice had been present since the fourth day of life. It was curious that the jaundice was slight and variable in degree in some of these patients.

Dr. F. PARKES WEBER said that the obliteration varied greatly in such cases both in degree and in position. Cases might end in recovery, whilst others might prove amenable to surgical treatment.

Dr. E. A. COCKAYNE regarded the condition as a variety of toxæmic jaundice in infants. In toxæmic jaundice the destructive changes might occur chiefly in the blood, in the hepatic cells, or, as in the disorder under consideration, in the bile channels.

Punctate Ulceration of the Stomach in Infants.

Dr. ERIC PRITCHARD and Dr. W. T. HILLIER showed four specimens of Punctate Ulceration of the Stomach in Infants. These specimens were all taken from cases of young infants who died of a peculiar form of gastritis occurring in cases in the wards of the Queen's Hospital for Children; they showed numerous and very minute ulcers; excessive vomiting was characteristic of all the cases, and in most of them blood-stained mucus was present in the vomit. Similar ulcerations of a follicular character were also found in the intestines.

Hypertrophic Pyloric Stenosis.

Dr. PRITCHARD and Dr. HILLIER also showed specimens from a case of Hypertrophic Pyloric Stenosis with Associated Hypertrophies. These specimens were taken from a baby, aged 3 months, who died of hypostatic pneumonia; they showed great hypertrophy of the lower end of the œsophagus, of the pylorus, and of the ileo-cæcal sphincter. At the cardiac orifice there was a polypus-like growth of mucous membrane about the size of a small pea. The stomach intra vitam had a capacity of about 4 oz. The transverse colon opposite to the greater curvature of the stomach was dilated. Macroscopically the adrenals were normal. The interest of this case lay in the association of hypertrophies at three points in the alimentary canal, which it had been suggested may be dependent on overaction of the adrenals, either before birth or after, or on want of compensation by antagonistic secretions.

Mr. H. TYRRELL GRAY said that it need not be supposed that the adrenal would show morbid changes, for the hyperadrenalism might occur in the mother and be in action before the child's birth. The absence of symptoms of pyloric stenosis, although there was considerable hypertrophy of the sphincter, was of interest, and bore out his own experience. He believed that many children were born with the anatomical lesion, but who developed no symptoms. If the latter arose they were due either to an unusual degree of hypertrophic stenosis or to some additional factor not fully understood. One of these causes which determined the onset of pyloric obstruction was the moderate over-development of the penis with a variety of phimosis which he had described, and which accounted for the greater number of cases in boys. He did not believe that hypertrophy of the pyloric muscle was any less frequent in girls than in boys, but boys more often developed pyloric obstruction.

Dr. CAUTLEY said that for the hypothesis of hyperadrenalism as the cause of hypertrophic stenosis to be correct there were three essentials, first hyperadrenalism must be present; secondly, it must be capable of causing spasm; thirdly, spasm must cause hypertrophy. None of these had been proved, and much more evidence was required than any which had been produced. He had seen the condition in Jew boys and in Gentiles who had been circumcised. If the hypothesis were the true one why should the cases be first met with almost always in infants in the first three months of life? One of the effects of wasting in children was to lead to marked atrophy of the adrenal glands with hypoadrenalism.

The PRESIDENT said that it was difficult to believe that the anatomical lesion, one of pure hypertrophy, which was a normal process and not a morbid condition, was the cause of the malady. He drew a comparison between it and megalocolon. It had been shown in monkeys that if reverse peristalsis were induced in a part of the colon, a circular band of hypertrophy developed above it, and he suggested that some such functional disturbance accounted for hypertrophy of the pyloric sphincter.

Tuberculosis of the Heart.

Dr. T. H. GUNEWARDENE showed a specimen of Tuberculosis of the Heart. The tuberculous focus was situated in the wall of the left auricle and had invaded the mouths of the pulmonary veins, the interauricular

septum, and the rings of the auriculo-ventricular orifices. There were areas of caseation, and tubercle bacilli had been shown to be present. The lesion was apparently primary, and no tuberculosis was found elsewhere in the body. The history was of two months' duration, and the signs during life were those of hypertrophy and dilatation merely; no bruits were heard. Of 41 cases of tuberculosis of the heart which he had seen records of only one had so extensive a lesion.

Cirrhosis of the Liver.

Dr. R. C. JEWESBURY showed a case of Cirrhosis of the Liver in a boy aged 4½ years. He had been well until 2½ years old, when jaundice appeared, and was followed by abdominal swelling. The jaundice lasted only a few days. There had been attacks of epistaxis but no other hæmorrhage, and vomiting had been occasional only. The liver was very large, hard, and irregular; the spleen reached to the level of the umbilicus. The fingers and toes were clubbed. Only a faint variable systolic murmur was heard. The mother had confessed to giving the child a teaspoonful of gin in hot water occasionally for 3½ years. The Wassermann reaction was negative. The blood examination showed considerable anæmia, a colour index of 1, and 2200 white blood corpuscles per c.mm. The diagnosis of alcoholic cirrhosis was suggested.

Dr. F. S. LANGMEAD pointed out that the systolic murmur was loudest at the pulmonary base and was was conducted through to the back. This favoured the view that congenital cardiac malformation was associated and accounted for the clubbing and the dusky appearance of the patient. Clubbing was well known in hypertrophic biliary cirrhosis in children, but not in multilobular cirrhosis.

Isolated Scaphoid Disease.

Dr. COCKAYNE showed skiagrams of a case of Isolated Scaphoid Disease (Köhler's disease). The patient was a cretin, aged 4½ years, who had complained of pain in the left foot and had limped for a year. Recently the foot had become more painful. There was some tenderness over the scaphoid region. The skiagram showed the left scaphoid bone to be small, narrow, dense, and irregular, and to project on to the surface. There was no evidence of tubercle.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

THE ordinary quarterly meeting of the association was held in the rooms of the Medical Society of London on Nov. 25th, under the presidency of Dr. BEDFORD PIERCE, who in his introductory remarks spoke with much feeling of the recent losses which the society had sustained by the death of Dr. T. Drapes, Editor of the journal of the association, Dr. Charles Mercier, and Dr. E. G. Fearnsides. A vote of condolence with the surviving relatives of each of the deceased members was carried by members rising in their places.

The Need for Schools of Psychiatry.

A paper on this subject was contributed by Dr. C. HUBERT BOND, which is published in this issue of THE LANCET.

Dr. J. R. LORD said that patients suffering from mental diseases were, too frequently, looked upon as a class apart, and this idea should be combated. He thought the cure of mental conditions should be cultivated as a specialism far more than was the case at the present time; there was need for a concentration of the best effort to this end, effort was now too diffuse.

Dr. D. G. THOMSON alluded to the importance of the teaching and even the non-teaching hospitals taking this matter up, but he foresaw obstacles to this. He referred with pride to the unified curriculum, for which the association was answerable.

Sir FREDERICK MOTT said that 40 years ago the London County Council, at its inception, proposed the establishment in London of a hospital for acute mental cases, but nothing came of it. But 11 years ago the late Dr. Maudsley offered to give the London County Council £40,000 to enable it to build such an institution. It took the Council a long time to find a site, but eventually it did so, and then the war intervened to stop the building, so that neither Dr. Maudsley nor Mrs. Maudsley saw the hospital a reality. The Council was now very anxious to use the building for the civil population, and it was hoped shortly to have clinics there in correlation with the asylums of London. He believed there would be a better standard of knowledge on psychiatry among medical students if examiners in medicine would occasionally set questions on it.

Dr. R. H. STEEN referred to the general misconceptions on the subject of insanity, and to some efforts which had recently been made to provide clinical teaching in psychiatry.

Dr. T. S. GOOD stated that for two years there had been a psychiatry clinic in association with the Radcliffe Infirmary in Oxford.

Dr. DEVINE commented on the lack of systematised teaching on insanity in this country, and pleaded for opportunities for intensive study. Specialists in psychiatry should combine and start a school and a tradition of British psychiatry; short of that he did not see a prospect of real progress.

Dr. G. E. PEACHELL thought much good would be done if an extended epitome of Dr. Bond's paper could be sent to various asylum committees.

Sir ROBERT ARMSTRONG-JONES gave his experience in starting a mental department at St. Bartholomew's Hospital, and said that every medical man ought to have a chance of seeing in his neighbourhood a case of acute mania, one of melancholia, of epilepsy, of general paralysis, and of arterio-sclerosis. There was a great need to kindle interest in the subject.

TUBERCULOSIS SOCIETY.

AT a joint meeting of this society with the Society of School Medical Officers, on Dec. 1st, Dr. JAMES KERR opened a discussion upon

The Various Aspects of Tuberculosis in Relation to School Life.

He said that the economic effect upon the school authority was very considerable, as tuberculosis was extremely prevalent and caused the loss of money for which no return was received. Actual phthisis in children, however, was almost a rare disease. Of 300 children inspected at Bradford only two showed definite phthisis, and Dr. J. E. Squire and Dr. A. Gowdey in London 12 years ago examined 2000 children and found less than ½ per cent. (0·44) with definite signs. In Paris, Grancher examined 4200 children, of whom only 2 had open tubercle, but 600 proved positive to a very delicate test (altered inspiratory murmur). There was much difference in the figures given by different school inspectors and this only emphasised the necessity of uniformity and a definite basis upon which the diagnosis should be made. He said that the child had naturally a high immunity to the disease, which should be preserved by improving the conditions in the present schools, by providing more open-air schools, and by doing everything possible to remove the natural environment of tuberculosis, which was poverty.

Dr. F. N. KAY MENZIES had no doubt that 0·5 per cent. was the correct figure for pulmonary disease. He found that the higher figures were usually given by the younger members of the service. He had been struck by the enormous numbers of children attending the London dispensaries and did not agree with the wholesale distribution of cod-liver oil and malt which was practised. The London County Council now had 500 beds at its disposal and this would soon be increased to 600, with an additional 400 beds, through the Children's Aid Society, for lighter cases. He hoped for more open-air schools, but preferred the child treated while still in its own home, as thereby it was possible to improve the home environment. The infection in children was chiefly of the human type in those over 5 years old, and of the bovine in those

under 5; the former was the more active and fatal. Two things which needed remedy were tuberculosis in cattle and the segregation of the advanced adult case, in both of which the "massive dose" was the chief adverse factor.

Dr. L. J. SHORT pointed out the advantages of close coöperation between the tuberculosis officer and the school medical officer. In Somerset this was obtained by means of a history card which was sent with the findings of the school doctor to the dispensary. This was, after the tuberculosis officer had added his diagnosis, returned to the school, and in this way a complete record was kept. He had found that simple exclusion for a period from school was sufficient to bring about the cure.

Dr. CLIVE RIVIERE said that there was no separation of infection and incidence: the latter was so universal. Most children had bronchial gland with slight hilus disease, but of these few developed signs or symptoms which demanded treatment. The X ray showed many shadows, which meant very little. All children who showed physical signs had at some time suffered from the disease, and possibly this would light up in adult life. He recognised a class of "subtuberculous" children who should be under supervision at school, be weighed regularly, and sent to convalescent homes for short periods to improve the general health. He thought the acute and chronic catarrhs were responsible for the development of tubercle.

Dr. HALLIDAY SUTHERLAND considered that the main symptoms were failure to gain weight and an irritability coupled with dyspepsia. Care should be taken not to overlook worms, which caused the same symptoms. He did not agree with the pre- or sub-tuberculous class: either a child had or had not got the disease. The school medical officers and the tuberculosis officers had much in common, and he hoped that the meeting would lead to a closer union of the two societies.

Dr. F. S. LANGMEAD said that tuberculosis in children was a lymphatic disease. 55 per cent. gave a positive von Pirquet reaction, but intracutaneous injection gave a positive reaction in 95 per cent. He uttered a note of warning against sending the rheumatic child to the open-air school, which would be very detrimental for it.

Dr. J. SORLEY spoke of the impossibility of obtaining sputum from children and of the method adopted by Dr. L. E. Holt. It was difficult to know how to avoid numbers of children at the dispensaries, as if they were turned away there was no method at present for them to obtain treatment or supervision.

Dr. F. C. SHRUBSALL said that it was simplest and probably most correct to consider that everybody had tuberculosis, but it was not everyone who suffered from it. He thought that all schools should be made very airy and bright, and that prevention should begin there. School teachers should be encouraged to bring forward ailing children, a procedure which had been put in the background by routine inspection.

Dr. HORACE WILSON was of opinion that the infection of childhood produced an immunity to disease in later life, and that few of the cases when once healed come back as adult cases.

THE MEDICO-LEGAL SOCIETY.

A MEETING of this society was held on Nov. 28th at 11, Chandos-street, London, W. In the unavoidable absence of Mr. R. HENSLOWE WELLINGTON, the President, Dr. MORGAN FINUCANE took the chair, and read Mr. Wellington's inaugural address on the rise of forensic medicine as a subject of first-class importance in practice and in education.

Dr. A. P. GIBBONS read a paper entitled

Suggested Reforms in the Workmen's Compensation Act.

The author, whilst paying tribute to the courtesy and painstaking endeavours of many county court judges, referred to some of the unhappy incidents that have occurred and do occur in courts where doctors, especially when appearing on behalf of defendants, are in compensation cases treated with something less than the courtesy due to them as professional men desirous of assisting justice. Dr. Gibbons criticised the manner in which medical assessors and referees are appointed by the Home Office, since it results not infrequently that consulting physicians, innocent of surgical experience, are called upon to act as experts in cases of surgical importance, and bacteriologists in cases of industrial disease, such as lead-poisoning and the like. The suggestion was put forward that boards of medical assessors or referees should be appointed for areas, and that to these boards all medical questions and disputes in respect of compensation cases should be referred. A further suggestion was made to the effect that workmen should be assessed for incapacity after accident, not merely in respect of the skilled work performed up till the time of the accident, but in percentages of earning capacity in the broad sense of the phrase, without reference to trade-union restrictions.

Discussion.

In the discussion which followed Dr. F. S. TOOGOOD agreed that there exist at present good grounds for discontent, but was not convinced of the applicability of Dr. Gibbons's proposal that boards should be appointed for the decision of the medical problems involved.

Mr. A. S. MORLEY insisted on the need for amendment of the Act, whereby it should provide that a case should be heard before a medical referee if *either* party to the suit so desire, and not only when, as at present, *both* wish reference. He questioned the wisdom of the present state of affairs, whereby sickness secures less pay during disability than does accident; and asked if it would not be possible to amalgamate the Insurance and the Compensation Acts?

Mr. G. C. GARDINER favoured Mr. Morley's suggestion of reference on the desire of either party, and thought it desirable that county court judges should be bound to refer cases to medical assessors when asked to do so.

Mr. A. HAIR, disapproving of Dr. Gibbons's notion, drew attention to the inextricability of the medical questions from those of fact involved in compensation cases, and declared that the assessment of earning capacity was not a purely medical affair.

His Honour Judge BURROWS agreed with Mr. Hair that the medical part of a case could not be conducted separately from the legal, and insisted on the advantage of medical witnesses being present for examination during inquiry into the facts.

Dr. F. G. CROOKSHANK, recognising the difficulties commented on by Dr. Gibbons, supported the nomination in each area of a panel of referees or assessors, so that appropriate specialist experience could be utilised; but, after a not inconsiderable experience in the courts before the war, and of medical boards at home and abroad during the war, expressed himself strongly in favour of the present system, whereby conflicting evidence given by medical men in open court was candidly and acutely balanced by a trained legal intellect. He pointed out that great part of medical evidence in court deals with the attributability or otherwise of present conditions to antecedent events, and that medical men, too often obsessed by the notion of the "single cause" of "special diseases" (which they persist in regarding as things having objective reality), fail to appreciate the true question as it appears to the more logical and philosophic lawyer: "Would this man be as he now is if the accident that happened to him had not occurred?"

The CHAIRMAN briefly summed up the discussion, observing that at present county court judges are not bound to accept the award of medical referees.

The next meeting of the society will be held in January, 1920. Applications for membership should be addressed to either of the honorary secretaries, Mr. E. Goddard, 3, South-square, Gray's Inn, W.C. 1, or Dr. B. H. Spilsbury, 31, Marlborough-hill, N.W. 8.

WELSH PRIORY OF ST. JOHN.—It has been decided to build, at a cost of £70,000, headquarters for the Welsh Priory of the Order of St. John of Jerusalem at Cardiff, on a site near the ruins of the ancient Greyfriars Priory in Cathays Park. The land belongs to Lord Bute, who has offered to contribute £5000 towards the building fund.

Reviews and Notices of Books.

SIR VICTOR HORSLEY.

A Study of His Life and Work. By STEPHEN PAGET. London: Constable and Co. 1919. Pp. 358. 21s. net.

"A man with a boy's heart; a hater of cruelty and injustice, and also with a brave, indomitable belief that ..... and his own cause were generally in the right, whatever the quarrel."

"A man, it is true, of a warm heart rather than of a cold judgment, but a man whom for that very reason many admired, many loved, and many will miss, almost every day of their life."

SUCH are two estimates by two good judges, Andrew Lang and Max Müller, of a man whom Horsley in many ways resembled—namely, Charles Kingsley. Both spent their lives in the service of humanity, both had a passionate sympathy with the "under dog," both were lovers of children and animals, to both we can apply what Mr. Paget says of Horsley on p. 280 of his book, that he was a man "who was always willing to set aside his own interests for the whole-hearted, full-blooded pursuit of an unpopular cause." Even in the manner of their deaths they were not divided. Kingsley wrote a passionate panegyric in praise of the "brave North-Easter," and it killed him. Horsley was so assured that a total abstainer could face risks that would be fatal to a non-abstainer that he exposed himself to the rays of a Mesopotamian sun with fatal results. Of course, this parallel does not imply that we consider Kingsley's intellectual capacities on a par with those of Horsley, for the latter was a brilliant genius, but in their unsparing spending of themselves for their fellows, and in many another way, they were much alike.

Horsley came of an artistic family; his grandfather was William Horsley, who ranks with Stevens, Webbe, and Callcott as a master in that peculiarly English form of composition, the glee. His father was John Callcott Horsley, R.A., and his mother was a sister of Sir Francis Seymour Haden, surgeon and etcher. J. C. Horsley was twice married, his first wife being Miss Elvira Walter. She had three children and died from consumption, while her three children did not long survive her, all dying from scarlet fever, a not uncommon event in those days. In 1854 J. C. Horsley married Rosamund Haden and by her had seven children, two of whom died from scarlet fever. Victor was the third child, and was born on April 14th, 1857, the same day as the Princess Beatrice. Queen Victoria, noting the coincidence, sent word to his parents that she wished the child to be named after herself.

In 1858 J. C. Horsley bought a country house near Cranbrook, in Kent, and here the children up to 1873 were brought up, Victor and his brother Walter being educated at Cranbrook school, whence in 1874 Victor passed to University College, London. Mr. Paget is of opinion that Horsley lost by not having been through the discipline of a public school and, indeed, he only just missed going to Charterhouse, but for some reason or other the scheme fell through. He studied medicine at University College Hospital, and took his M.R.C.S. in 1880 in the month of November, and was appointed house surgeon to Mr. John Marshall in December. From this date until 1884 he held various hospital appointments, and in the latter year began his work with Professor Schäfer and Dr. C. E. Beevor, being later appointed professor-superintendent of the Brown Institution. Here he planned out for the most part his three great researches: the localisation of function in the brain, the pathology of the thyroid gland with special reference to myxœdema and cretinism, and the protective treatment for rabies. The research upon the brain was developed not only at the Brown Institution with Beevor but also at University College Hospital with Schäfer. The brilliant results are known to all medical men, and we need not further pursue them here; suffice it to say that the investigations on the brain, together with those on the spinal cord, begun by Horsley in collaboration with Gotch at Oxford in 1888, made the relief or even cure of hitherto hopeless cases possible.

Two years previously to this Victor Horsley had been appointed surgeon to the National Hospital for the Paralysed and Epileptic, Queen-square, and here it was that he carried out that striking series of operations which gave him a world-wide reputation. Fifty years previously, says Mr. Paget, the surgeon "must have something to guide him, something to go by: wound or scar or depressed fracture. Trephining itself was not brain surgery, but skull surgery; it was the repairing of the roof of the house of life. The skull must be dealt with for the sake of the brain; but the less that the surgeon saw of the brain the better he was pleased." He goes on to remind his readers of the earliest recorded case, in this country, of real brain surgery—namely, that of Macewen, of Glasgow, in 1876, where that surgeon successfully localised a cerebral abscess. Operation was not allowed, but a post-mortem examination was and the abscess found where Macewen had predicted that it would be. Before Horsley's advent the treatment of paralysis had been mainly mechanical; by the end of 1886 Horsley had done ten operations on the central nervous system; nine were successful, ranging from improvement to complete recovery, one was followed by death, that of a boy with cerebellar tumour, paralysed in all four limbs, and worn out with pain, vomiting, and fits.

We must pass from Horsley's epoch-marking work in surgery and pathology to other activities in which he showed no less zeal for the good of his fellow creatures, though the results were not always as successful—namely, his work in professional politics. The fields of his labour were three: The Medical Defence Union, the General Medical Council, the British Medical Association. Like another brilliant but freakish public man, with whom he had many points in common, Lord Randolph Churchill, Horsley could not stand "the old gang"; and his doings on the General Medical Council brought out this side of his character in a marked manner. He was elected to the Council as one of the three Direct Representatives chosen by the whole profession in October, 1897. He went to the Council, as he made no secret of doing, with the express intention of stirring it up, and he certainly did so. He offended many, but in the long run he succeeded in getting the basis of his views adopted. At the end of his first term of five years he was re-elected by a large majority and just before the end of his second term he resigned. As president of the Medical Defence Union he was a power of strength, while the democratic constitution of the British Medical Association owed to him its origin. Also at the Royal College of Surgeons of England he was unsparing in his advocacy of the claim of Members to sit on the Council, but in vain. If his work here was not so successful as on the General Medical Council, yet it kept the question before the College, and in general, even if he did not always succeed in bringing about reforms, he produced an atmosphere favourable to them. Reformers are usually troublesome, but it must always be remembered that the Pool of Bethesda only showed its healing qualities at the time when the angel *troubled* the waters.

Of the last scenes of his life little need be said, for all the world knows of the grave by the Tigris. After many delays he was sent to France early in 1915 in charge of the surgical division of the 21st General Hospital. In May the hospital left for Egypt, in September he went to Gallipoli, and in March, 1916, to Bombay, and thence to Basrah in April, arriving at Amarah on May 21st. On July 16th he died from heat-stroke. Just before he left Egypt he said to Lady Horsley, "Don't worry about me; I don't matter. I can't live for ever; it's the young that matter." That was the true man's unselfish self who spoke, but as a fact he was always young; no one could imagine him old. He died as he had lived—consumed with a desire to do good to his fellows.

Mr. Paget has had a worthy subject for a biography, and the biographer has proved worthy of his subject.

GENERAL SURGERY.

Practical Medicine Series. Edited by ALBERT J. OCHSNER, M.D., F.R.M.S., LL.D., F.A.C.S., Major M.R.C., U.S. Army; Surgeon-in-Chief, Augustana and St. Mary of Nazareth Hospitals; Professor of Surgery in the Medical Department of the State of Illinois. With 140 illustrations and 49 plates. Chicago: The Year Book Publishers. Series 1919. Pp. 624.

THIS volume is a résumé of the surgery of 1918, and deals to a great extent with war surgery. The editor has succeeded in reducing the contents of a vast amount of literature into a comparatively small compass, and has produced a useful book of reference. Recent work on bone defects is well discussed, the methods of closing gaps in the skull are explained; the advantages of bone over metal or celluloid plates are insisted on. Especial preference is given to LeFur's method of cranioplasty, and that of ingrafting a portion of the scapula; the advantage of the later method is that the bone removed from the scapula is so thin that it can easily be moulded into the desired shape.

The section on general abdominal surgery contains, among other things, useful references to the abuse of drainage-tubes; the disadvantages of drastic pre-operative purgation; and the treatment of various post-operative complications. Stewart's operation of gastrostomy, by the formation of a dermal tube, is described in detail and is well illustrated. The vast amount written on hernia shows that in a large number of cases the usual methods of operating are not satisfactory, and Major Ochsner's chapters suggest that the number of recurrences probably exceed those published in statistics. The opinion of surgeons in general seems to favour the intercalation of artificial support in the layers of the abdominal wall, either by means of the silver filigree, or by some sort of "darning" operation, such as that advocated by Mr. Sampson Handley. The guillotine amputation, for which there is, in our opinion, no justification, still appears to have some partisans. The formation of skin flaps involves hardly any delay in the operation, while its advantages are too numerous and obvious to discuss. The sections on blood-vessels, joints, the surgery of the face and mouth, and malignant tumours all introduce important and interesting points.

WAR SURGERY OF THE FACE.

By JOHN B. ROBERTS, A.M., M.D., Fellow of the American College of Surgeons. London: John Bale, Sons and Danielsson. 1919. Pp. 442. 20*s*.

A COMPARISON of this book with "Surgery of Deformities of the Face," produced by the same author in 1912, forms a powerful illustration of the advance made in facial surgery during and owing to the war. The work is comprehensive and well arranged. Some sections are especially good, such as that on fracture-dislocations of the nose; although exception will be taken by most who have done this work to the use of paraffin, which the author recommends for selected cases. The chapter on radiographic diagnosis would be more valuable if it were not entirely devoid of illustrations. The section of anatomy is unnecessarily long and detailed; most of its contents are available in any anatomical text-book. Here and there the author mentions facts which must be too obvious to require allusion—for instance, that before anæsthesia the clothing should be loosened and pieces of chewing-gum removed from the mouth. The chapter on plastic repair of the ear confirms the general impression that surgical repair has made less advance here than in other parts of the face. In fact, the discreet silence maintained by all writers on the enormous difficulty in reproducing (with a cartilaginous scaffolding) the delicate curves of helix and antihelix is a grim testimony to this difficulty. In another chapter, of more general surgical interest, an excellent point is discussed regarding nerve surgery. The suggestion made, of exposing nerve-trunks by raising skin-flaps rather than through linear incisions, will appeal to any surgeon who has undertaken, through a small incision, a deep anastomosis such as a facio-hypoglossal.

One of the best features of this book is that the illustrations are for the most part from excellent photographs, whereas in the author's former work, as in most of the older treatises on this subject, drawings and diagrams were chiefly used.

MENTAL DISEASES.

By R. H. COLE, M.D., F.R.C.P. Second edition. London: University of London Press. 1919. Pp. 351. 15*s*.

A SECOND edition of this unpretentious and useful book. Should it reach a third edition we would suggest that it might be improved here and there in grammatical expression, and that such metaphysical references as it contains should be omitted. Few medical men are versed in the technique of philosophy, and we do not gather that the author is one of the number. He had better stick to his last and hammer out a good description of mental diseases. He is quite capable of that, as this book shows.

PRACTICAL SANITATION.

A Handbook for Sanitary Inspectors and Others Interested in Sanitation. By GEORGE REID, O.B.E., M.D., D.P.H. Nineteenth edition, revised. London: Charles Griffin and Co., Ltd. 1919. Pp. 376. 7*s*. 6*d*.

THE thirteenth edition of this work was reviewed at some length in THE LANCET of August 17th, 1907. The criticisms made at that time remain pertinent to-day, though six editions have since testified to the continued popularity of the book. Possibly from a wise caution the author has hesitated to discard the old and to embrace the new. The revision of the present edition has evidently not been very exhaustive. The section on the housing of the working classes, for example, quotes the Act of 1909 as the last authority in the present law. The section on tuberculosis is another example of careful work allowed to grow a trifle stale. We hope that the twentieth edition will receive the drastic revision which the book undoubtedly deserves and wants.

LETTERS TO A YOUNG MAN ON LOVE AND HEALTH.

By WALTER M. GALLICHAN. London: T. Werner Laurie, Ltd. 1919. Pp. 123. 4*s*. 6*d*.

A CORNER STONE OF RECONSTRUCTION.

A Book on Working for Social Purity among Men. By Four Chaplains to the Forces. London: Society for Promoting Christian Knowledge. 1919. Pp. 156. 3*s*. 6*d*.

SINCE it became recognised wisdom to write frankly of sex difficulties and the diseases incidental to an irregular life, there has been a generous output, both in the press and in the form of books, of teaching, sound and unsound. There is nothing mawkish or unsavoury about either of these two books. Mr. Gallichan believes—and we are of his opinion—that without some knowledge of sex hygiene, sex psychology, and the reproductive process in man, the chances of living a healthy moral and useful life as a celibate, a lover, a husband, a father, and a citizen, are very considerably reduced. Whether such knowledge is profitably conveyed in this series of pseudo-letters is another question, though the object is good. We say pseudo-letters because we do not believe that any writer would begin a real letter to a real nephew with the words: "My dear Leonard, I wish to give you some sound reasons for early marriage. The pleas for wedded life in early manhood are physiological, racial, social, and mental, and moral." Nor are these the pleas which would naturally have occurred to Leonard.

The four chaplains are less clerical in their style and they are no less well balanced in their outlook. They deal in a very practical manner with the problems of workers for social purity, and their book is one which may well be recommended to such workers. Naturally, at the great controversial point they condemn without reservation the provision of prophylaxis for venereal disease. They consider it "quite certain that when men are informed as to how to use such preventives and are told where they can be

obtained, the moral safeguards which lie in the individual conscience are at once undermined." The soldier, they believe, says in effect, "As they seem to expect it of me, I may as well go and do it." That there is something in this argument no one can deny, but the difficulties are not removed by setting them out.

JOURNALS.

Quarterly Journal of Experimental Physiology. Editors: E. SHARPEY SCHAFER, W. D. HALLIBURTON, C. S. SHERRINGTON, E. H. STARLING, and A. D. WALLER. Vol. XII., No. 3. London: Charles Griffin and Co., Ltd. 1919. Pp. 199–301. 10s.—A New Method for Crossed Circulation Experiments, with Some Observations on the Nature of Pressor Reflexes, by H. C. Bazett and W. C. Quinby. In 1880 L. Fredericq introduced the use of cross circulation experiments as a means of testing the relative importance of chemical and nervous factors in the control of respiration. Various modifications have been used by other observers for other purposes. The authors' method allows the crossing of the whole circulation of two animals through the ascending aortas. By means of a special stopcock the circulation can be crossed or returned to "normal" at will and at any moment. It was originally devised as a means of studying the causes of surgical shock, but it was not found readily adaptable for this purpose, as the animal in the better condition bled into the other animal. The chief part of the paper deals with pressor reflexes. The analysis of these responses shows that they are the result of complicated interactions of nervous, chemical, and mechanical factors, and emphasises the relative unimportance of all these factors, except vaso-constriction. Adrenalin is regarded by some as playing a considerable part in the rise of blood pressure on sensory stimulation, but this was not the case in these experiments. The character of the pressor response on stimulation of the sciatic nerve varies to a large extent according to the nature of the respiratory reaction. There is some evidence that an acapnic condition may alter slightly the reaction of the circulation to sensory stimulation. Under urethane anæsthesia, during crossed circulation, the pressor response to sciatic stimulation is almost entirely nervous in origin, while chemical and mechanical factors play an almost negligible part. The veno-pressor factor must also be subsidiary.—Traube Waves and Mayer Waves, by W. D. Halliburton. This is a short paper on the various waves seen in a blood-pressure tracing, especially the large sweeping waves seen during asphyxia in curarised animals, which appear to be identical with similar waves sometimes noticeable in the arterial blood-pressure tracings of uncurarised animals. They are probably of vasomotor origin. It seems appropriate to designate them after their original discoverer, Traube (1865). In 1869 Hering studied the same phenomenon, and hence in many text-books they are called Traube-Hering waves. The waves described by Sigmund Mayer (1876) are of an entirely different nature, and are produced in an artificial manner and have no physiological significance.—Experiments on the Cervical Vagus and Sympathetic, by E. Sharpey Schafer. No evidence was obtained here of functional regeneration of the peripheral vagus 2 years and 50 days after section of the nerve in the cat. The fatal result which follows double vagotomy, and which occurs within three days of section of the second vagus, no matter how long previously the first had been cut, is due not to pneumonia but to slow asphyxia caused by obstruction at the glottis from paralysis of the laryngeal muscles. If this paralysis is obviated, animals survive double vagotomy indefinitely, and show no abnormal symptoms, except a certain difficulty in swallowing, with sometimes a tendency to vomit, and increased pulse-rate. Although slowing and depression of respiratory movements often result from double vagotomy, the phenomenon is not constant, and if the trachea is previously opened, it may not occur at all. Especially when a long period has elapsed since the section of the first vagus, the "slow deep inspirations" which form the classical picture of the effect of double vagotomy are not observed, provided tracheotomy has been performed. In the dog and cat when the sympathetic nerves are cut in the neck—either along with the vagus or separately—the resulting symptoms in the eye and in the vessels of the ear have been found to persist as long as the animal was kept alive—two years (dog, cat)—although becoming less manifest as time went on. If the sympathetic of the opposite side is now severed—after a certain interval of time, probably exceeding eight days—the symptoms, which are at once very pronounced on the side of the second section, may disappear on the side of the first section, and may even be replaced by a "swing" in the opposite direction—i.e., the pupil becomes abnormally dilated, the eye abnormally prominent, the membrana nictitans may entirely disappear, and the blood-vessels of the ear become contracted, so that the ear is cold to the feel. These "reversal" conditions tend gradually to pass off, but as long as the animals have been kept alive there remains a decided difference on the two sides, the signs of section being always more obvious upon the side last operated on. In rabbits the effects of section of the cervical sympathetics or extirpation of the superior ganglia are more variable than in cat and dog. Salivation and lacrimation on the side of the section of one sympathetic have been observed in some cats. The probable significance of these symptoms is discussed.

Archivio Italiano di Chirurgia (*Italian Archives of Surgery*) is a new periodical, published under the direction of Professor M. Donati, of Modena. Each volume will consist of at least 600 pages, and will appear in six parts. The first part contains four papers which cover 152 pages. The first paper, written by the director, deals with Latent and Atypical Forms of Tetanus. The author, as a result of routine bacteriological examination of the discharges from septic wounds, came to the conclusion that the presence of *B. tetani* in these wounds was by no means rare. These infections, as a rule, were unaccompanied by symptoms, which fact the author attributes to the prophylactic dose of serum which the patients had received soon after being wounded. Exaggeration of reflexes is often the only detectable physical sign in these cases, and further injections of serum bring about a complete cure. In the second paper Dr. Banchieri reports a case of tetanus localised in one lower limb which appeared 14 months after the infliction of a wound which had healed up, but from which the foreign body had not been removed. The disease went on for five months, and extraction of the F.B. and more serum completely cured the disease.—A paper by Dr. Fasiani deals with the preparation and properties of immune sera against the commoner organisms found in cases of gas gangrene. Dr. Fasiani found that *B. perfringens*, *B. œdematis maligni* (Ghon and Sachs), and *B. œdematis maligni* (Novy) occurred most frequently in the cases of gas gangrene from the Corso and Piave. Sera, which were actively agglutinating, precipitating and antitoxic, were obtained by intravenous injection of unfiltered broth cultures into horses. According to the author, the sera obtained by this method in the case of the first two organisms were even more powerful than those prepared in other ways. The third did not yield such a powerful serum. The last paper gives an account of an experimental investigation by Dr. G. Forni on the effects of nephrectomy on the evolution of tubercle in the remaining kidney. After a general review of our present knowledge on this subject the author proceeds to give an account of his experiments. The animals used were rabbits and guinea-pigs. A culture of T.B. was injected directly into one kidney, and after a variable period the other kidney was removed. After a further lapse of time the animals were killed and the infected kidney examined. The author found that in the nephrectomised animals the lesions found post mortem were always much less marked than in the control animals, which had been infected but not nephrectomised. He concludes, therefore, that the compensatory hypertrophy following nephrectomy increases the resistance of the kidney, and may even lead to regression of the tuberculous process. The paper is illustrated by coloured plates, which are quite good. The *Italian Archives of Surgery* promises to be a very useful addition to the list of surgical periodicals.

THE LANCET.

LONDON: SATURDAY, DECEMBER 13, 1919.

The New Measles Notification Order.

THE Ministry of Health announce an important change in the system of compulsory notification of measles, which will take effect at the New Year. It will be remembered that the present notification requirements in England and Wales were imposed during the war by a Local Government Board Order of 1915, which applied to the whole country. It was made the duty of doctors in every sanitary district to notify first cases of measles in a household, as well as first cases of rubeola or German measles. The duty of notifying all other cases of measles and rubeola, except first cases already notified by a doctor, was placed on the parent, guardian, or other person having charge of the patient. This order is now to be withdrawn. Compulsory notification of measles and rubeola will cease as a general measure, but it will be continued in those districts in which the town or district council decide that some form of notification will be helpful to their local measures for the treatment of these diseases, and can satisfy the Ministry of Health that these measures are in themselves sufficiently active and useful to warrant a local notification order. The new local orders may provide for the continuance of the same notification requirements as those contained in the present general order; or the latter may be varied, for example, by requiring that all cases of measles, not only the first case, are notifiable by doctors; or the notification of rubeola may be omitted. The question is thus one of some urgency for medical officers of health, as it is obviously desirable that a local authority which wishes to continue notification after the end of this month should make early application to the Ministry, while it is equally important that the medical officer of health should obtain the views of medical practitioners in his district before advising his authority.

It is common ground that in measles, unlike some other acute infectious diseases, notification is of little value as a means of preventing spread of infection. However promptly cases may be diagnosed or reported, no administrative measures which are practicable under ordinary conditions of life in this country can check the recurrence of measles epidemics. Even where measures of isolation and segregation can be so thoroughly and promptly taken as for the moment to avoid the spread of infection—for example, in schools—the after result may not always be advantageous. This was illustrated during the war by the severity and heavy mortality of the numerous adult cases of measles which occurred among men joining the army from the Highlands and other remote places in which epidemics occur only at long intervals. Nor can it be said that measles notification figures, such as have been obtained in the last four years as a result of the general order, have much value as a means of increasing epidemiological knowledge. Allowances have to be made in three directions, namely: for the limitations imposed by the "first case" rule on notification by doctors; for the uncertainties of parental notification, which in the large majority of cases is not observed; and for the different extent to which doctors are summoned to attend measles cases. When all this is taken into account it is evident that facts as to periodic waves of measles prevalence, and comparisons between one district and another in regard to measles, can be as well or better obtained from study of death-rates or of special case returns from schools or institutions. The practical thing by which notification must be judged is the part that it plays in the essential business of securing the good treatment of measles, so as to remove or diminish the risk of secondary complications, the pulmonary or ear disease, the chronic disability, and formidable mortality. Fortunately, we have now a considerable body of experience of the good work which can be done by the public health authorities in this matter. Its nature and scope are well set out in the circular from the Ministry of Health to county councils and sanitary authorities, which accompanies the new rescinding order. This circular (No. 35, Measles and German Measles) gives excellent practical advice as to the manner in which local action can be taken by the use of health visitors, by provision of home nursing, by advising medical aid in all cases and supplying it when necessary—at the expense of the sanitary authority—by the use in appropriate cases of isolation hospitals and convalescent homes, and by "after-care." Local authorities are strongly urged by the Ministry to develop their activities in these directions, and when children under 5 years of age are in question, Government grants in aid can be obtained. The circular states that, as a result of experience, the receipt of notifications under the general order which is now being rescinded is not to be considered an essential factor in a practical scheme having the diminution of mortality from measles as its aim. Local authorities which have been most active in this work have still in large measure to rely on their own means for finding out cases of measles, for example, through health visitors or schools, with the result that notification afterwards received has been redundant. On the other hand, in many districts the notifications are filed without any appropriate action, and in such cases it is difficult to justify the expenditure on notification fees. By their new policy of local option the Ministry evidently hope to secure that the notification will only be imposed where it is likely to be of some real value in practice, while the department is evidently not averse from experiments with different forms of

local notification, some of which may well prove better than the system which is stereotyped in the present general order.

The new policy is likely to have its critics from lovers of uniformity, and it will no doubt be inconvenient to medical men who practise in several different districts to have to remember that in one area it is necessary to notify in one way, in a second area in another way, while in a third no notification is required. But, on the other hand, uniformity can be purchased at too high a price, and in the present day, when medical certificates are asked for almost everything, we may welcome a measure coming from the Ministry of Health which makes it unnecessary to fill up notification forms in cases where no use will be made of them. It is much more important that the Ministry of Health should actively pursue, and promote by means of grants, the main lines of local action against measles which are formulated in its circulars, while differential study is made at the same time of the extent to which one or another form of notification is in practice found to foster local action against measles mortality. The question of payment for notification, to which no reference is made in the new order or circular, is of course important in connexion with the new local orders which are to be issued. It may confidently be assumed that notification fees in this and in all other cases will be restored at least to the standard half-crown rate which was so unjustifiably reduced during the war.

The Teaching of Practical Midwifery.

THE discussion at the Obstetrical Section of the Royal Society of Medicine on the teaching of obstetrics to medical students will have done good if it calls the attention of the profession to two important questions—viz., the necessity for the provision of larger numbers of beds for lying-in women not only in London but all over the country, and the necessity for improving the teaching of practical midwifery to medical students. That the number of beds available for lying-in cases in the London hospitals attached to medical schools is very insufficient is shown by the fact that there are only 97 of a total of 5250 beds in these 12 hospitals set aside for this purpose, and of these 69 only are available for the teaching of medical students. It is a scandalous fact that in most parts of the United Kingdom it is quite impossible for any woman who desires to do so to obtain admission to a lying-in hospital for her confinement, and the number who are delivered in such surroundings forms but a very small fraction of the total number of the deliveries in any one year. Yet it is a truism to say that the safest place for a woman to be delivered is in a well-conducted lying-in hospital, and the appalling death-rate, almost entirely preventable, which still occurs in this country as a result of child-birth will never be reduced to a minimum until such facilities are rendered readily available in every part of the United Kingdom, and both in towns and rural areas. It is an astonishing thing that in London, the largest and wealthiest city in the world, the hospital accommodation for lying-in women should be totally inadequate; and, indeed, there is no lying-in hospital in London to be compared either in size or equipment with many of those to be found in quite small cities abroad or in the United States. In the general reorganisation of hospital accommodation, which may be one of the hardest problems awaiting solution by the new Ministry of Health, this question must be taken into account, and there is some evidence that local and other authorities are having their attention called hereto.

It is evident from the discussion to which we have alluded that there is some difference of opinion among London obstetric physicians as to the best method of obtaining a definite improvement in the teaching of practical midwifery; while some of them believe the right course to be the establishment of large midwifery and gynæcological institutes, self-contained and closely associated with maternity and child-welfare centres, others believe that a better solution is the provision on a more generous and better-equipped scale of lying-in wards at the various medical schools. We regret that where the situation by common agreement calls for amendment there should be divided counsels among those who are so largely concerned in the wisest method of procedure. It seems certain that the policy of the Ministry of Health contemplates a critical review of the hospital accommodation all over the country and, if necessary, its reorganisation, so that there shall be no overlapping or waste, and that beds may be available so far as possible for all varieties of disease. This will involve necessarily complete reorganisation of the Poor-law infirmaries and a reconsideration of their relationship to the general hospitals and to the hospitals associated with medical schools; and in connexion with this latter relationship some means should be found for making use of the vast amount of material in these institutions for clinical teaching which is so completely wasted at the present time. The teachers in midwifery at the medical schools should remember that if the suffering and mortality of childbirth is to be ameliorated, not only must the teaching of the medical student be improved, but also that of the midwife, and any plans they may put forward must provide for both these purposes. The blame for the present large mortality and morbidity of child-birth cannot be laid solely at the door of the doctor or of the midwife; they are both involved, and no one who knows the facts could say that improvements in the teaching of both are not urgently called for. This is not a time for destructive criticism; a via media must be found if the best use is to be made of the opportunities which will soon arise, and which, if not taken advantage of, may never recur.

It seems to us that the provision of large maternity centres in various parts of London, fully equipped for the reception of lying-in cases and perhaps also for gynæcological cases, and certainly associated with maternity and child-welfare centres, must be a feature of hospital evolution in the near future. The need for such centres is pressing, and once the public learns that the present death-rate and the present dangers of child-bed are almost entirely preventable they will not be content with the existing inadequate provision for the hospital treatment of such cases, they will demand, and rightly demand, ampler and better provision. And the public authorities will have to yield to their cry. The maternity centres will furnish opportunities of teaching undergraduates, post-graduates, and midwives, on a larger and better scale than exists at the present time; and it is the business of the teachers of midwifery to take advantage of opportunities that may offer for the institution and management of the centres; let them not throw away chances because they cannot agree among themselves as to the relative merits of two schemes which in reality differ but little from one another. By all means let the small number of hospitals which can do so enlarge their existing accommodation for maternity cases and at the same time take steps to improve their teaching, which at present is admittedly defective; but the total number of beds which these hospitals will be able to set aside for midwifery will be quite inadequate to fill the demand; there will remain ample scope and material for the new institutions, to be run on the lines of the Committee's report. It would be suicidal for all the medical schools of the metropolis—and we are for the present discussing the situation only as it affects London—to try to establish maternity wards with a sufficient number of beds; this should be attempted by not more than three or four schools, and the students of the other schools should obtain their clinical instruction either at one of the schools furnished with a maternity ward, or, better, at one of the new and large midwifery institutions, of which at least half a dozen will be required in the different areas of London. We hope that the present policy which has been initiated in some local areas of starting small lying-in homes will not be continued to any great extent; these homes are extravagant to equip and to administer, and cannot afford either the competent nursing staff which is so essential, nor will they attract the services of the right kind of well-trained and sufficiently skilled practitioner. Any that are opened should be affiliated ultimately to one of the larger institutions, so that in case of necessity they may be able to command the services of the experts who will form the members of the whole-time staff of these establishments. We sincerely hope that the Obstetrical Section of the Royal Society of Medicine will not stop the good work they have initiated, but will draw up alternative schemes which might form the basis of such a plan as we have outlined. Then, when the Ministry of Health develops its plans, the teachers of midwifery in London will be able to point out the right path for it to follow, and will not be found with divided counsels and with no defined policy.

The Place of the Physician in Ophthalmology.

WE published in a recent issue of THE LANCET the proposal of DR. RAYNER BATTEN that definite provision should be made on the staffs of our hospitals for the appointment of ophthalmic physicians as well as ophthalmic surgeons. The proposal, which gave rise this week to an interesting discussion at an adjourned meeting of the Ophthalmological Section of the Royal Society of Medicine, was seconded by Dr. C. O. HAWTHORNE, who pointed to the frequency with which patients suffering from general diseases, such as diabetes, nephritis, meningitis, or acromegaly, come in the first instance under the notice of the ophthalmic surgeon on account of ocular symptoms which may be only of minor importance. As was pointed out by other speakers, however, there is no reason to suppose that such cases are kept in the ophthalmic department or hospital when they might be more appropriately put under the care of the general physician who certainly ought himself to be an adept in the use of the ophthalmoscope and the perimeter, instruments essential for the diagnosis of many general diseases.

DR. BATTEN'S argument for the due recognition of ophthalmic physicians was differently based. There are many conditions, such as retinal hæmorrhages of various kinds, several varieties of retinitis, choroiditis, iritis, and cyclitis, and numerous other ocular conditions not associated with symptoms on which the diagnosis of a general disease can be founded, for dealing with which the training and methods of the physician rather than of the surgeon are required; further, there are many unsolved problems concerning diseases of the eye—such as the causation of cataract, the channels by which septic infection reaches the eye, or the prophylaxis of detached retina and conical cornea—in the solution of which we look for help, if anywhere, from ophthalmologists who are also trained physicians. In the discussion on DR. BATTEN'S paper the obvious objection was raised that to recognise two species of ophthalmic specialists would be to encourage the tendency towards specialism, which has already gone too far, and although the author of the paper repudiated any such intention it is difficult to see how it could be avoided. The ideal which the specialist in ophthalmology sets before himself is, in the first place, to know all that there is to be known about the conditions by which vision is affected, and in the second place, in cases where the affection of sight is the sole or most prominent symptom, to complete both diagnosis and treatment himself, except in cases where he cannot do without the coöperation of other

specialists. We should regret the narrowing of this ideal, which would ensue if one set of specialists renounced from the outset of their career the practice of eye surgery, and another set, devoting themselves exclusively to operative work, lost all interest in the countless problems which the ophthalmoscopic examination of abnormal eyes continually presents. Nor would it be in the best interests of patients to come under the treatment of men who could with any justice be suspected of undue bias, either, on the one hand, towards operative methods of treatment, or, on the other, towards any rival methods which vaccine-therapy, organo-therapy, or drug treatment may in the future evolve.

Having said so much, we may admit that there is a great deal of truth in Dr. BATTEN'S contention that the conditions of appointment to the post of ophthalmic surgeon now in force at our principal London hospitals are urgently in need of review, on the ground that most of the knowledge acquired during the years of hard work necessary to the attainment of the English Fellowship is entirely irrelevant to the work of the ophthalmologist. In this connexion we may call attention to the report of the Council of British Ophthalmologists on a Higher Qualification in Ophthalmology, recently published.[1] They remark on the fact that in the higher surgical examinations as at present conducted there is seldom any adequate test of a candidate's knowledge of ophthalmology, and they suggest that all universities and colleges, which confer higher surgical qualifications such as are required of candidates for the post of ophthalmic surgeon in most large hospitals, should make ophthalmology one of the optional subjects, as has already been done in the case of the Edinburgh Fellowship and the degree of M.S. of the University of London. If such an examination is adopted, says the report, it is desirable that it should be definitely stated that the degree or diploma is granted in ophthalmology. This would be a valuable reform, though scarcely going far enough to satisfy those who desire to place the medical side of ophthalmology on a footing of equality with the surgical. We would suggest that the advocates of this view should devise means by which their end may be attained without causing ophthalmologists to specialise inside their own subject at too early a period in their careers. The operative experience gained before appointment to the staff of a hospital must be limited, and there will always be some who will prove better operators than others. Similarly, none can hope to approach the solution of such ophthalmological problems as we have indicated from the medical side without years of experience. There is surely no reason why division of labour on some such lines should not be practised by completely qualified ophthalmologists without any hard-and-fast line being drawn between ophthalmic physicians and surgeons which would be confusing to the public and not in the best interests of ophthalmology.

[1] THE LANCET, Dec. 6th, 1919, p. 1046.

Annotations.

"Ne quid nimis."

THE PREVENTION OF DISEASE AMONG TROOPS ON ACTIVE SERVICE.

AT the Royal Society of Medicine on Monday last Sir John Goodwin, Director-General of the Army Medical Service, delivered an interesting address on the prevention of disease among troops on active service, noting at the outset that some 14 years ago he read a paper on the same subject at the Royal United Service Institute, in which he indicated that the future success of all armies in the field must, and will to an enormous extent, depend upon the proficiency in which measures for the prevention of disease are carried out. Much medical history is contained in the thought that such a statement, which to-day is an accepted truism, should only a few years ago have been considered an arguable proposition. And despite our experience in the Boer war it must be admitted that 14 years ago none of our soldiers planned their measures in case of war with the idea that the fighting man would have largely to depend upon preventive medicine for his effectiveness. But the Royal Army Medical Corps was more alive to the situation than any other section of our society, and when Sir John Goodwin told the Royal Society of Medicine that the British share of the success in the Great War had been largely owing to unceasing efforts of the Corps for the past ten years in establishing army hygiene he was only claiming for his branch of the service its due credit. Sir John Goodwin reviewed briefly the various communicable diseases which threatened the British armies in the recent war, giving at the same time notes on the means which were adopted towards meeting them. He narrated the statistics of the enteric group of diseases in former wars, and contrasted the grievous and alarming figures with the figures of the Great War. Taking the French Army, he said that during the opening three months of the war 8000 cases fell into the enteric group, with 3000 deaths (we give the figures roughly); from Nov. 1st, 1914, during the next year there were 87,000 cases and 8000 deaths; and during the year from Nov. 1st, 1915, to Nov. 1st, 1916, there were 17,000 cases and 700 deaths. Inoculation was not made compulsory in the French Army until March, 1914, and only 125,000 men had been inoculated on mobilisation. If incidence and mortality had remained what they were at the end of 1914 the number of cases would have exceeded a million and the deaths would have been 145,000. As regards the British Armies in France, from the commencement of the war until December, 1918, there were 7423 cases, with 266 deaths, in an average strength of 1,200,000 men. The explanation of these extremely satisfactory figures, Sir John Goodwin said, lay in the advance of our scientific knowledge, the perfection of methods of purification of water, the rigid disposal of waste products, effective field sanitation, improved education in hygiene, and, lastly, the increase of preventive inoculation. As regards typhoid and paratyphoid vaccine, during the five years of the war 25,000,000 c.cm. of vaccine were issued, and he recorded a special debt of gratitude to the inoculation department of St. Mary's Hospital, which during the first six months of the war supplied over 1,000,000 c.cm. of typhoid vaccine;

at the same time, he detailed the enormous quantities of vaccine which had been issued during the last five years from the vaccine department of the Royal Army Medical College. Sir John Goodwin dealt with similar particularity in respect of the incidence of dysentery, and the measures which had been taken for the control of malaria in the field and for the prevention of its spread to civilian populations. In an instructive address he showed the influence that prevention and education have in giving man the mastery over plagues hitherto considered the invariable and invincible concomitants of war.

THE HEALTH OF THE SCHOOL CHILD.

THE appearance of the annual report for 1918[1] of the chief medical officer of the Board of Education, a detailed account of which we hold over to a later issue, brings once again under notice the immensity of the task which lies before the health authorities of the country, who are charged with the duty of producing an A 1 population. Roughly, one-half of the children in the public elementary schools are found on medical inspection to be defective in some particular, and more than one-third of the whole are referred for treatment. Under the health provisions of the Education Act, 1918, the powers and duties of local education authorities are greatly widened in scope and extent. Medical inspection of pupils is now extended to secondary schools and continuation schools, which will in time provide for the whole of the adolescent population up to the age of 18. Further, provision is made for the establishment of nursery schools for children between 2 and 5 years of age. In regard to secondary schools, from 25 to 50 per cent. of the pupils are usually found to require treatment mostly for dental caries, defective vision, enlarged tonsils, disorders of the heart, malnutrition, anæmia, spinal curvature, and flat-foot.

It is clear that a great deal of this defect is preventable, and the task of the authorities should be to ascertain the causes which produce it and to deal with the evil at the root. To this end the coöperation and coördination of every agency are needed. The school medical service cannot stand alone. Much of the defect is already in existence before the child arrives at school. Much is due to adverse home environment, and more to maternal ignorance. The greatest obstacle to progress is the chaotic manner in which various health functions have been, and still are, distributed between rival and overlapping central and local authorities. Through the Ministry of Health Act, 1919, we have, at any rate, arrived at unity of command. This must be followed without delay by unity of action among the forces in the field. Under the Act the health duties of the Board of Education are transferred to the Minister of Health, provided that the powers and duties of the Minister may be exercised and performed by the Board on his behalf and with his authority. We now learn that under this proviso the Board will continue to act for the Minister of Health, and local education authorities will continue the school medical work which they have hitherto undertaken, but with the increased powers and duties laid upon them by the Education Act, 1918. Locally, therefore, things remain as they were and no step forward has yet been achieved.

[1] Cmd. 420. H.M. Stationery Office. Price 1s. 3d.

Where the local education authority and the local sanitary authority are united in the same body considerable coördination of action is possible. Thus at St. Helens, for instance, it has been found possible to combine the school nurse, the health visitor, and the school attendance officer in the person of a single official. This makes alike for economy and greatly improved efficiency. Since the health duties of the local education authorities must continue to be directly performed, it would seem these authorities should also everywhere be the coördinating head, with controlling powers over all subsidiary health authorities in the area. Legislative action is urgently needed on the lines of the report of the Maclean Committee for the transfer of the Poor-law health functions to the local health authorities, and at the same time the fusion of the present multiplicity of overlapping local health authorities into one coördinated system must be effected. Only thus will the present confusion of effort and ruinous duplication of officials be abolished, and only thus will the way at last be cleared for dealing with the ill-health, and consequent inefficiency and incompetence, which are found wherever the conditions of the people are studied—found not alone in the school but in the maternity centre, the recruiting centre, the workshop, and the factory.

WANTED: A PATHOGNOMONIC SIGN OF EARLY ACTIVE TUBERCULOSIS.

"The moral is that pulmonary tuberculosis should not be confidently diagnosed until tubercle bacilli have been found in the sputum."

"A case can no longer be considered early when once tubercle bacilli appear in the sputum. I consider, with only a few exceptions, that a patient with a positive sputum is past the prospect of ultimate arrest."

IN a recent number of the *Practitioner* there are two papers containing these two statements, which, if contrasted, must be interpreted as a confession of a deplorable flaw in our knowledge of the early manifestations of tuberculosis. In the first paper Dr. A. J. Jex-Blake is referring to McCrae's and Funk's observation that among 1200 consecutive cases admitted to hospital for advanced pulmonary tuberculosis 72, or 6 per cent., were found to be non-tuberculous. Dr. Oscar Holden is responsible for the second statement, with the pessimism of which many physicians will disagree. It has been estimated that France lost the equivalent of more than a division owing to the mistaken diagnosis of pulmonary tuberculosis early in the war. Of the Americans sent home from Europe with the diagnosis of pulmonary tuberculosis, an extraordinarily high proportion was subsequently judged to be non-tuberculous. The importance of the differential diagnosis increases yearly with the introduction of measures tending to isolate the consumptive from the rest of the community. A generation back there may have been little provision for the care of the consumptive, but he was, at any rate, free from the stigma that is attached to the diagnosis of pulmonary tuberculosis at the present time. And it is the recognition of this stigma that is reflected in the tardy diagnosis and notification of the disease by many medical men. Could it be counteracted by compensatory benefits, such as the allotment of a State pension, a potent stimulus to early diagnosis would be given, while, in the interests of the patient, practitioners would focus their attention more than heretofore on the signs of early, active

tuberculosis. What are they? A reference to text-books on the subject leaves the reader bewildered by the wealth of minutiæ which specialists bring forward as aids to the diagnosis of active tuberculosis, yet none of their tests, short of the demonstration of the tubercle bacillus or a necropsy, is pathognomonic. Another unsatisfactory feature is the lack of unanimity as to the importance attached by various authorities to different signs. In the most recent and comprehensive text-book on the early diagnosis of tuberculosis not even a passing reference is made to the blood pressure, whereas Professor M. Fishberg finds a low blood pressure an invaluable aid to diagnosis in doubtful cases. So long as an early diagnosis is in most cases only a "probability diagnosis" we must admit ignorance of a matter of incalculable importance.

DEXTROCARDIA.

AT first sight the condition of transposition of the thoracic viscera appears to be very infrequent. Colonel A. Webb, of whom we made inquiry, kindly informs us that in the National Service records there is no note of its occurrence among the quarter of a million men placed in Grade 4, nor among the 16,000 men in each of the three higher grades, whose case-sheets were analysed as samples of the whole. On the other hand, three cases were observed during the examination of 20,000 men in Liverpool. It is, of course, very difficult to obtain trustworthy figures in regard to a condition unattended by disability. Dr. B. Parsons-Smith puts four cases on record in our present issue, and in so doing brings out a novel point. The significance of a right-sided heart depends wholly, he considers, upon its association or not with transposition of the abdominal viscera. Complete transposition does not incapacitate, and is only discovered by accident such as a recruiting examination. If, however, during fœtal development there is a twist one way in the thorax without a corresponding twist in the abdomen, the liver and the heart come to lie next each other to the detriment of the latter. There is overcrowding of viscera with production, in course of time, of cardiac incompetence. Presumably there is another class of case, which Dr. Parsons-Smith does not mention, in which the viscera in the chest are normally placed, while abdominal transposition brings the liver across to the left side to annoy the heart. It would be interesting to learn if this has been ever recognised as the cause of circulatory disability.

DIFFICULTIES IN SLUM CLEARANCE.

THE City of London Corporation, which has almost autocratic powers, is considering the improvement of a considerable slum area in the region of Hutchinson-street, at an estimated cost of nearly £140,000. Dr. W. J. Howarth pointed out to his authority the great responsibility which would rest on the Corporation if disease broke out in this area. His suggestion is that some of the single-family houses should be turned temporarily into tenements, and by this means the clearance extended over about four years. The most active reformers can see that it is not desirable at the present time to turn many people out of their homes. The clearance is likely therefore to obtain a temporary respite on account of the present lack of alternative dwellings. But the slum, and what it stands for, has obtained an astonishing ally in the shape of the British Temperance League, which has issued a pamphlet entitled "Alcohol, Housing, and Tuberculosis." Intent on showing the connexion between chronic alcoholism and the incidence of tuberculosis, the league sees in the present outcry against bad housing conditions a dangerous counter-attraction to its own propaganda. The pamphlet contains a violent attack upon the Minister of Health and all who believe as he does that bad housing conditions are largely responsible for the spread of tuberculosis, and contains the sentence: "From a study of the facts it would be very easy to show that the slum protects from rather than invites tuberculosis, and this demolishes the theories of the word-spinners." The demonstration consists in pointing out the relatively higher death-rate of males as compared with that of females during the industrial years of life, and overlooks two determining factors—namely, the probability that infection usually takes place in early youth and the influence of fatigue in wearing down resistance to the disease. The medical profession has a right to ask whether this pamphlet was submitted before publication to the distinguished pathologist who is president of the league.

REMARKABLE GUNSHOT INJURY OF THORAX AND ABDOMEN.

Dr. C. H. Waters has recently recorded[1] a very remarkable case of gunshot injury. A boy, aged 15 years, climbed a steep embankment, and while on his knees in the act of drawing up his gun with his left hand, the muzzle being directed towards him, it was discharged. A great hole was torn in the antero-lateral aspect of the left side of the thorax. With assistance he managed to walk about 600 ft. to the nearest house, where he was seen about 20 minutes later. He was in a state of considerable shock. The entire stomach, much distended, was found extruded through the opening. It occupied much the same position as a football carried in the angle of the elbow, and was about the size of an adult head. It seemed to be intact, and was covered with a debris of dirt, grass, and fragments of clothing. It was prevented from retracting by the jagged ends of the ribs. The boy was given gr. ½ of morphia and transported to hospital. For operation only the upper clothing was removed. Under light ether anæsthesia the stomach was thoroughly irrigated with saline solution. As no perforation was found it was replaced in the abdomen, its size having been reduced by compression. There was a linear laceration of the diaphragm 3 in. long, which involved only the muscular portion. Exploration of the thoracic cavity showed complete retraction of the lung, a portion of the margin of the lower lobe shot away, and clotted and fluid blood present. The heart, which was readily palpated, had retracted to the right and was lying under the sternum. The inner extremity of the thoracic wound was probably not more than ½ in. below and to the outer side of the normal position of the apex. The cavity in the chest was carefully cleared of clots, fragments of ribs, and clothing, and attention was directed to the diaphragmatic rent. Suturing had been begun at the inner angle when considerable blood was observed to issue from the abdominal cavity. Exploration showed that the spleen was almost torn in two and its diaphragmatic surface extensively lacerated. An attempt to deliver the organ through the diaphragmatic

[1] Journal of the American Medical Association, Nov. 15th, 1919.

opening did not give convenient access to its pedicle. Suture of the diaphragm was hastily completed and the abdomen opened through a left rectus incision. A quart of free blood was found in the peritoneal cavity. The spleen was removed after double ligation of its pedicle and a yard roll of 3-in. gauze was packed in the subdiaphragmatic space to control oozing and to serve for drainage. The abdomen was then closed. Then arose the problem of closing the thoracic wound, which was 8 in. long and 2 in. wide. The seventh, eighth, and ninth ribs having been shot away, an inch or more of the fragmented ends was removed, permitting further collapse of the chest wall and facilitating closure. The wound was closed with interrupted sutures under considerable tension. Tube drainage was maintained for 48 hours. At the conclusion of the operation, which took about an hour, the patient was in fair condition with a pulse of 150. After 36 hours the gauze pack was removed, and the thoracic drainage-tube the day following. After 10 days a daily rise of temperature began. A suspicious area of dullness in the left chest yielded on aspiration at first only old blood, but later muco-purulent exudate. Rib resection showed a small pocket of pus containing a buckshot. The abscess was drained. Sloughing of the chest wound prolonged healing. To prevent scoliosis, which began to develop, breathing exercises were given. The left chest soon filled out, and the heart returned to its normal position. The patient gained rapidly in strength, and returned to school 2½ months after the injury. He grew into a robust boy apparently none the worse for it. X ray examination revealed almost complete expansion of the lung with free action of the diaphragm. Numerous shot, evidently in the chest wall, were also shown.

A NEW SOUTH AFRICAN MEDICAL SCHOOL.

UNDER the auspices of the Johannesburg University College the new building for the University of South Africa Medical School has been commenced. It is situated in immediate proximity to the Johannesburg Hospital, which has over 500 free beds, and to the South African Institute for Medical Research. We commented editorially in THE LANCET of Nov. 29th, p. 984, on a recent publication issued by this institute, with which the new medical school will be intimately associated. The departments of anatomy and physiology are already working, and it is confidently expected that the present first year students—25 in number—will be able to complete their education in Johannesburg and graduate M.B., B.Ch. in the University of South Africa. The course of study is the result of much work on the part of the leading medical men of the city, in coöperation with the staff of the University College. The curriculum occupies six years, and meets the requirements of the local medical councils. As it is modelled on that of the English and Scottish Universities it is hoped that the General Medical Council will in due course recognise the South African medical degree. In the past South Africans who wished to study medicine were at a double disadvantage. They were unable to take a course in their own country, and on arrival in Europe found to their dismay that the Cape matriculation was not universally recognised as equivalent to the standard required for entrance to British universities. The majority of them have taken their training in Edinburgh, which, unlike London, accepts the Cape matriculation, or in Holland, whither those who speak Dutch for preference are attracted by the special consideration in fees offered to them. In the future they will be able to study medicine either in Johannesburg or in Capetown, where a well-equipped school of medicine has recently become part of the university life. There will be an honourable competition between the two schools for recognition by the General Medical Council.

SURVIVAL OF QUADRUPLETS.

THE analyses made by Professor Johann Veit of Halle of the official records of 13 million births in Prussia have long counted as the classic information for the relative frequency of multiple pregnancies. The proportion of twin to total births was given by him as 1 : 89, the figures for triplets and quadruplets in round numbers 1 : 8000 and 1 : 400,000 respectively. Puech's table, quoted in Playfair's standard midwifery text-book of the last generation, adds other values for the quadruplet proportion, varying from 111 in Wurtemberg to 2074 in France, the numbers in each case representing thousands. Puech held that multiple pregnancies were an index of average national fertility. Dead broods only interest statisticians, and there is little recorded evidence of the survival of quadruplets, although Sir J. Y. Simpson mentions a female who, with her three quadruplet brothers, survived herself to give birth in turn to triplets. Playfair stated that in his time premature labour and the death of the fœtuses were the almost certain sequel of quadruplicity. And the absence of any contemporary record of living quadruplets at the present time suggests that the chance of survival has not increased. Dr. J. Livingstone Loudon has been good enough to send us notes of a recent case of survival of quadruplets in the burgh of which he is in sanitary charge. The father is a Scotsman, 27 years of age, and a miner by occupation; the mother is Irish and 28 years of age. They have been married for four years and live in a single apartment. There are two previous children, aged 3 and 1⅞ years respectively. There is no history of multiple pregnancies on either side of the family. The confinement, on Nov. 29th, was at full term, and was attended by a midwife. There were two placentæ, one with three cords and one with a single cord. The quadruplets consisted of three boys and a girl, the weights at birth being 5 lb., 5 lb., 5½ lb., and 5 lb. They were born at 1.10 A.M., 1.40 A.M., 3.40 A.M., and 3.50 A.M. Mother and children are doing well. This case throws no light on the share of the male and female elements in the production of multiple pregnancies, which is a matter well worthy of serious study. There is the historic case quoted by Sue of a Parisian shopkeeper named Brunet who begat 21 infants in seven consecutive years, and seduced a young servant who at the end of nine months presented him with triplets. Heredity ordinarily appears to play a large part in plural bearing, and in France, at all events, it is greater in certain departments than others.

THE MEDICAL DIRECTORY.

THE seventy-sixth annual issue, which is before us, of Messrs. J. and A. Churchill's Medical Directory contains the names of 44,260 medical men and women with their record of academic distinction and professional standing. This is an increase of 1160 names on last year's record, the increase being due chiefly to "practitioners resident abroad," a striking circumstance not

wholly to be explained by temporary post-war conditions. In the introductory section of useful information, the abstract of laws affecting the medical profession has been brought up to date for the moment, although we opine it will require largely to be rewritten next year. A guide to British spas still occupies the space which used to be given to foreign health resorts; with the resumption of ordinary travelling facilities readers would, doubtless, be again glad of guidance in regard to patients wishful to go abroad. The staffs of the Ministry of Health, of the Medical Research Committee, and of the Board of Education appear in full, but the perplexing modesty of the Medical Department of the London County Council leaves the reader in ignorance of its important and varied staff. The Directory is a little nobler in external form than heretofore. Twenty-four shillings is a heavy price to pay for it, but is not out of proportion to the increased expense of production.

MEDICAL INSURANCE AGENCY.

A MEETING of the Committee of Management of the Medical Insurance Agency was held at the offices of the British Medical Association on Nov. 26th when the chairman, Dr. G. E. Haslip, was happy to announce progress all along the line. The business of the agency had progressed under every heading, and he was able to show that it was not only self-supporting after large distribution in rebates and grants, but that it promised to go much further. For the nine months ending Sept. 30th last the income of the agency from commissions and other sources totalled £2027 as against £1410 in 1918. The committee decided to make the following grants to medical charities: The Royal Medical Benevolent Fund, £200; the Guild of that Fund, £200; the Royal Benevolent Fund, Epsom, £210; the Royal Medical Benevolent Fund Society of Ireland, £25; the Birmingham Medical Benevolent Society, £25. This distribution of £660 makes the total sum distributed in medical charity during 1919 £1015. During the last four years, in three of which the country was in the throes of war, the Medical Insurance Agency has distributed £3722 10s. in this valuable manner.

Sir William Osler, who has been suffering from a severe attack of influenza, shows some improvement as compared with last week.

THE House and Library of the Royal Society of Medicine will be closed from Monday, Dec. 22nd, to Saturday, Dec. 27th, both days inclusive.

LOCAL arrangements are being made for the annual meeting of the British Medical Association, to be held in Cambridge next year from Tuesday, June 29th, to Friday, July 2nd. The President of the Association, Sir T. Clifford Allbutt, is to deliver the general address on Tuesday, at 8.30 P.M. The afternoons of each succeeding day are to be given up to demonstrations, for the conduct of which arrangements are being made in Cambridge by the following sectional directors: Medicine, Dr. J. Aldren Wright; Surgery, Mr. Arthur Cooke; Physiology, Professor J. N. Langley; Pharmacology, Professor W. E. Dixon; Neurology, Dr. C. S. Myers; Pathology, Professor Sir G. Sims Woodhead. There will be a temporary pathological museum and it is hoped that the various sections may arrange for collections of specimens, drawings, models, and photographs illustrating their particular topics.

AN ACHONDROPLASIC SKULL

EXCAVATED ON THE SITE OF THE ROMAN CEMETERY AT CHESTER.

BY J. ELLIOTT, *O.B.E.*, M.D., B.Sc., F.R.C.P.

(*With a Note on the Character of the Skull by* Professor ARTHUR KEITH, F.R.S.)

IN the spring of 1912 the renovation and reconstruction of the Chester Infirmary necessitated building operations on an adjoining field known as "the Infirmary Field" and in ancient times as "Lady Barrow's Hey," the origin of the latter name being obscure. Lady Barrow's Hey was an extensive "croft" in ancient days, and comprised, in addition to the present Infirmary field, the ground also on which the old infirmary and other buildings were subsequently erected. Tradition had consistently pointed out this as "the plague field," a view in favour of which no evidence has been furnished either by old chance excavations or by those undertaken in connexion with the erection of new wings to the infirmary in 1912 to 1914. The site, although within the circuit of the Edwardian walls (Edward II., 1307–1327), was extra-mural to the Roman city of Deva, and consequently the fact that Roman burials had been unearthed at various points in the field—e.g., in 1858, 1863, &c.—was quite in accordance with the known burial customs of the ancients.

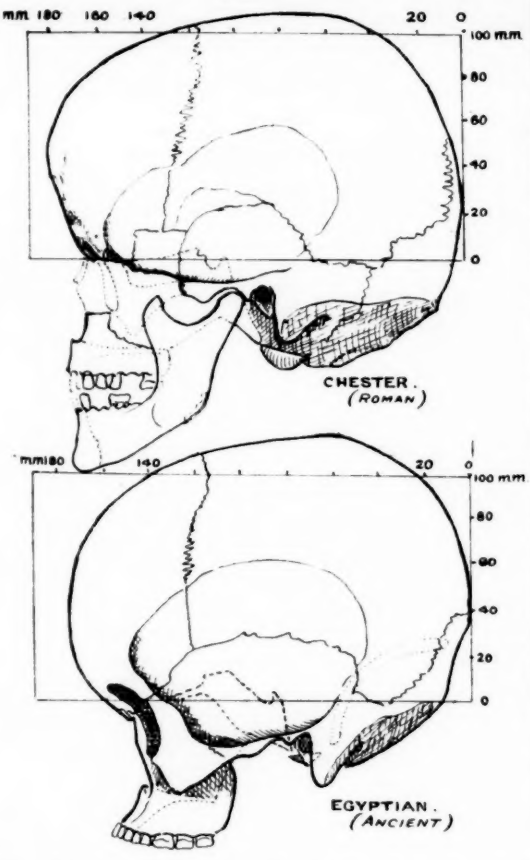
The records of such finds, as also the existing traditions as to plague burials, led one to anticipate interesting discoveries. Professor Robert Newstead, F.R.S., and myself were placed by the infirmary board in charge of the excavations, and it soon became evident that the portion of the field examined was undoubtedly the site of a Roman cemetery. From the commencement of the building operations in 1912 until the opening of the new wings of the Royal Infirmary in 1914 some 31 interments had been located and examined in the Infirmary field proper, whilst an additional nine were found on the site of the new out-patient department, which site, in near proximity to the infirmary field, had formed a part of Lady Barrow's Hey.

This particular site is referred to in Professor Newstead's report as the "Bedward Row" site, and the following quotation from his report establishes the date of the burials here:—

> "The material found on the site near 'Bedward Row' included the remains of nine skeletons, and although the major portion of these were hopelessly disorganised, due to a later disturbance of the soil, three of them were found lying intact in a stratum containing innumerable fragments of Roman vessels and two coins, so that we may justly claim the burials to be contemporary with the chronological data afforded by these relics."

The skull, which I immediately recognised to be an achondroplasic specimen, was found in one of those three intact burials, No. X.C. in Professor Newstead's report. Unfortunately, the other bones completing this particular skeleton were not removed intact, and it is now impossible to give any account of their characteristics. The skull, although broken, was in a state of sufficiently good preservation to be easily reconstructed, when its peculiar formation could be at once appreciated. In this case the body had been interred in made earth above the level of the boulder clay. Many skeletons which were found in the latter stratum presented extraordinary difficulties in preservation and restoration. The bones were so soft that they crumbled like cheese between

FIG. 1.



the finger and thumb, and could only be handled after being steeped in warm gelatin solution and subsequently dried. Many of the skulls were broken into innumerable fragments by grave pressure, and were only restored after infinite labour. Without the skilful help of Professor Newstead their preservation would have been impossible. His report (see reference below) gives a full account of the excavations, with the various objects of interest found in association with the burials.

The accompanying coins, pottery, and other objects present in the burials show that they belong to the later part of the second century. The human remains are in my charge, and provide most interesting anthropological data, as well as a few facts of pathological interest. A full report on these remains is being prepared for publication, as well as on some additional burials excavated since 1914.

Although we may be considered fortunate in having secured a specimen from the Roman period it is certain that achondroplasia was by no means rare in ancient times, when these achondroplasic dwarfs were often secured as court jesters and valued for their precocity and eccentric appearance. The figures of the gods Phthah and Bes in ancient Egypt were representations of achondroplasia, as were also the dwarfs in the canvases of Velasquez in more recent times, and to-day we see occasionally examples of the affection.

The Chester skull has been presented by the board of the Royal Infirmary to the Museum of the Royal College of Surgeons of England, and I append a note by Professor Keith, with his permission, fully describing the specimen.

Note by Professor A. KEITH.

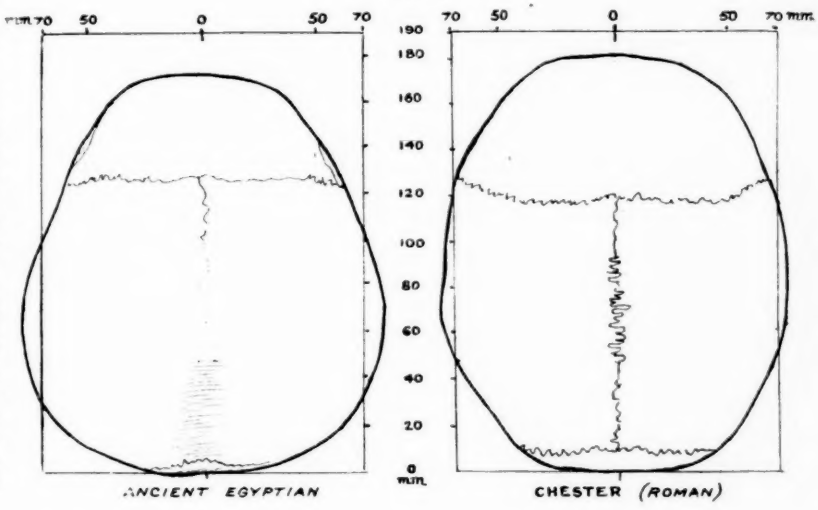
In the accompanying drawings I have compared the achondroplasic skull you had the good fortune to find in the Roman graveyard at Chester with a similar skull found by Professor Flinders Petrie in an Egyptian grave of the eighteenth dynasty, which has been described by Dr. C. G. Seligman,* and by myself in an article on achondroplasia.† Recently Dr. J. B. Christopherson has presented to this museum the skeleton of a negro who was a subject of achondroplasia.

Unfortunately, in your specimen the base of the skull is broken and cannot be restored with accuracy, but there can be no doubt as to the correctness of your diagnosis. One cannot insist too strongly upon the fact that achondroplasia is a pathological condition and varies in the severity of its incidence; it may be so slight as to be barely recognisable, or it may reach such a degree as that shown in the ancient Egyptian skull, when the arrest in the growth of the cartilaginous base of the skull is profound. In your case the arrest in the basal growth belongs to the minor degree.

As will be seen from the profile drawings of the Chester and Egyptian skull (Fig. 1), both occipital and spheno-ethmoidal regions of the Egyptian skull are affected, with the result that the lower occipital and lower frontal regions are drawn inwards and approximated. In your case the occipital region is

* Man, February, 1912, No. 8.
† Journal Anat. and Physiol., 1913, vol. xlvii., p. 189.

FIG. 2.



very little affected; the arrest of growth falls chiefly on the spheno-ethmoidal region, leading to a marked retraction of the nasion and supra-orbital region of the forehead.

In the profile drawings the skulls are orientated on a plane which passes through the fronto-malar suture in front and the posterior inferior angle of the parietal behind—a plane which I find very useful for the comparison of skulls in which the facial parts are absent or broken. I have fitted each profile into a framework of lines, the horizontal lines being 100 mm. apart and the vertical 190 mm. When a normal skull is orientated as I have indicated and placed in such a framework the vault should reach the upper horizontal and the lower part of the forehead the anterior vertical line. In achondroplasia the vault tends to rise far above the upper horizontal line and the supra-orbital region, to fall far short of the anterior vertical line. In the Chester skull the vault rises 8 mm. above the upper horizontal line; in the Egyptian skull 16 mm. On the other hand, the lower frontal region falls 26 mm. short of the anterior vertical line in the Chester skull and 30 mm. in the ancient Egyptian.

The explanation of those peculiar features—the elevation of the vault and retraction of the supra-orbital region—lies in the manner in which brain-space is obtained in the subjects of achondroplasia. Owing to the arrest of growth in the basal parts of the skull the brain expands upwards and laterally, giving the vault of the skull its high and globular form. The drawings of the vault bring out other characteristics of the skull in achondroplasia.

The length of the Chester skull I estimate to be 183 mm., its greatest width 149 mm. (Fig. 2), the height of the vault above the ear holes 120 mm.; the cubic capacity must have been about 1450–1500 c.cm. The bones are thin, those of the vault varying from 4 to 5 mm.; at the glabella the thickness of the frontal bone is only 12 mm.

It is very difficult in such cases to form an opinion as to sex, all the sexual characters being masked, but I suspect that in both the Chester and Egyptian cases the sex was feminine. Although the teeth in the Chester skull are much worn, and many of them lost from disease—apparently not caries—the sutures of the vault are still clearly seen; I think the age of the individual may be estimated at about 40 or 50 years.

References.—Newstead: Annals of Archæology and Anthropology, vol. vi., No. 4. Dr. Murk Jansen: Achondroplasia, its Nature and its Cause, 1912. With introduction by Professor Elliot Smith. Keith: Journal of Anatomy and Physiology, 1913, vol. xlvii., p. 189. Cautley: Diseases of Children, 1910.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Scottish Board of Health and Panel Chemists.

THE Scottish Board of Health have issued a statement with reference to the claim put forward by the panel chemists for a 50 per cent. increase on the Scottish scale put forward, but not granted, in 1913, or a 200 per cent. addition to the rates at present in force. In other words, the dispensing fee of 2*d.* would in every case be raised to 6*d.* Apart from the profit on drugs, the Board claim that in a 50 hours' working week, dispensing six prescriptions per hour, the average annual payment would be £375, whether the assistant were qualified or not. The Board believe that the rate is considerably in excess of the actual average remuneration, and that even a fully qualified assistant is not generally paid more than £250 per annum, and that their offer leaves ample margin for any reasonable increase in salaries of assistants. The rate claimed by Scottish chemists is considerably in excess of that for England, and the Government will not agree to so substantial a difference in the two countries. Further, the chemists claim a dispensing fee of 6*d.* for every service rendered, even in handing over a finished article, which might be delivered to the general public in the ordinary course as a sales transaction. Chemists, says the statement of the Board, receive no less than 33⅓ per cent. gross profit on each ingredient of a prescription in addition to the dispensing fee. The Board think that chemists generally are not aware of the profit the tariff is yielding, and state that an investigation undertaken by the Drug Accounts Committee at the Central Checking Bureau in 1916 showed that the gross profit on drugs as shown by a scrutiny of over 200,000 forms was over 50 per cent. Over and above this the dispensing fees showed an average payment of 2·31*d.* While the dispensing fee has remained the same, the profit on drugs has steadily risen, and for the first half of 1919 shows an increase over 1913 of nearly 47 per cent. The Board emphasise the danger of insisting on such a demand as the present. A general refusal of Scottish chemists to contract would compel the Board to consider an entirely different method for the supply of drugs, and might even entail the closing of the panel for a considerable time.

Presentation to a Scottish Medical Man.

The residents of Culter, Aberdeenshire, and surrounding districts have made a presentation to Dr. Robert Rannie, who has practised in Culter for over 30 years, and to Mrs. Rannie. Mr. A. F. Irvine, of Drum, spoke warmly of Dr. Rannie's efforts to undertake the work of a particularly large district, stretching as far as Portlethen and Muchalls, during the war. The gifts were subscribed to by close upon 500 people. Dr. Rannie, in returning thanks, referred to his work for the National Health Insurance Act. He had a panel of 1000, and in the seven years since the Act had come into force the relations between him and his patients had always been cordial.

Medico-Chirurgical Society of Edinburgh: Debate on Psychotherapy.

At the meeting of this society held on Dec. 3rd a discussion took place upon psychotherapy. The discussion was opened by Dr. George M. Robertson, who gave a general outline of the subject in an exceptionally interesting and able paper. It is, he stated, only comparatively recently that the importance of psychotherapy has come to be recognised, though it has been unconsciously practised from the earliest times. Most symptoms are mental, such as malaise, discomfort, sense of ill-being, pain, and in every case the brain is the ultimate seat of their interpretation. For any symptom to be fully appreciated complete consciousness is necessary, and hence it is that psychotherapy can be of great value in removing or relieving symptoms, not only in functional cases, but also in those where their production is dependent upon some definite anatomical lesion. Cases cited were pneumonia, toothache, whitlow, and inoperable cancer. Dr. Robertson then gave instances of diseases which were the result of auto-suggestion, and showed how this might also be a means of retarding recovery—instancing particularly the slow recovery in war neuroses during the continuance of hostilities, and the hysterical complications of rheumatism. Disease might also result or be prolonged in consequence of suggestions received from other people—as in hysteria major—and invalidism from any cause might be protracted by similar means. The mind is more susceptible to suggestion during disease, especially of a toxic nature, than in health, and hence, although psychotherapy cannot remove the organic changes of morbidity, it can nevertheless be of great value in relieving suffering. The influence of the mind over the body is well recognised, one of the best examples being the phenomena which occur after severe emotional disturbance—such as fright—which is followed by circulatory disturbances, palpitation, sweating, &c. It has even been stated that blisters may be produced by psychic influences, every precaution in the case cited having been

taken to preclude any possibility of fraud. Treatment by psychotherapy in the modern sense was probably first employed about the time of the French Revolution, when the "moral treatment of the insane" was introduced. Further progress was made when susceptibility to suggestion was noted first in individuals under the influence of hypnotism, and later in the waking state. The use of psychotherapy, however, can be traced to a much earlier period, and it doubtless explained the success of amulets and charms, weapon salve, sympathetic powder, faith cures and the benefits obtained from religious relics, as well as at the successes attributed to Christian Science. The most important therapeutic influence of the physician was that of his personality, and the confidence which his patients have in him plays a large part in the success of his treatment. Of the many drugs in use only a small number had any definite and proven value. All had seen drugs introduced which apparently at first were of value, but shortly were abandoned as useless, hence the advice: "Hurry up and take the new medicine, while it still cures." The methods of employing psychotherapy were numerous, and varied according to the individual practitioner. The simplest form—and one which every doctor was constantly using, even though unconsciously—was suggestion. The giving of a prescription and at the same time telling the patient the action expected from it was an example of its use. The personality of the physician was of paramount importance—undue anxiety on his part, if apparent to the patient, might prolong an illness or intensify symptoms. Persuasion, by a combination of instruction, education, and argument, was a more active form of suggestion. Psychoanalysis might be of value in given cases, but was seldom successfully employed above middle age, and might give offence to the patient, and in some cases prove actually harmful.

In the discussion Dr. H. C. Marr spoke of the value of psychotherapy in cases of shell shock, but opposed its general use as risky. Dr. A. Ninian Bruce dealt particularly with psychotherapy in early incipient insanity, and Dr. D. Murray Lyon gave an outline of psychotherapeutic methods with illustrative cases. Professor J. C. Meakins, Dr. D. Chalmers Watson, Dr. Yellowlees, and Dr. A. J. Brock also contributed to the discussion.

Glasgow Medico-Chirurgical Society: Detail in Abdominal Operations.

The opening meeting of this society was held on Nov. 21st, when Mr. A. Ernest Maylard, the President, delivered an address on the Practical Significance of Attention to Detail in Abdominal Operations. It was not, he said, in books, and but rarely in special monographs that such surgical minutiæ were described; rather they were to be observed in the practical work of individual surgeons. No detail should be considered too trivial; it might lessen the possibility of subsequent complications, hasten the process of repair, or diminish the occurrence of pain. Details in abdominal operations could be considered in connexion with (1) the abdominal parietes, (2) the parietal and visceral peritoneum, (3) the viscera. The incision should, where possible, be carried through aponeurotic tissue, as the efficient healing of the aponeurosis is the surest preventive against subsequent hernia. As few cuts as possible should be made; to "dissect" an incision was to lacerate the tissues, so that in addition to the time entailed dissection also exposed devitalised tissue to the risk of autogenous infection. In the closure of a wound the most perfect possible co-aptation of the margins should be aimed at, so that no spaces be left for the accumulation of blood, serum, or liquid fat. Hence, if the deep part of a very fat wound cannot be effectually co-apted it was wise to introduce a small rubber drainage-tube along the floor of the wound. Tight stitching, more likely to occur with interrupted than with continuous sutures, especially if the knot was a "reef" and not a "surgical" one, led to strangulation of tissues and should be avoided. The "granny" knot and so-called "anchor" dressing were undesirable because apt to cause discomfort to the patient. The procedure, advocated by Dr. C. J. Bond, of wiping the wound previous to its final closure with 3 or 4 per cent. iodine solution, was of proved value, but not the least soiling of the peritoneum must be permitted, as it would almost certainly lead to the subsequent formation of intraperitoneal adhesions. Of details associated with the parietal and visceral peritoneum one most frequently neglected was the failure to evert the edges of the peritoneum in suturing the parietal wound, the result being the formation of adhesions. In suturing a visceral wound, on the other hand, the peritoneal edges should be carefully inverted. The edges of divided peritoneum should of course be seized by sharp hooks, and not by pressure forceps. Among details associated with the viscera all raw surfaces must be carefully obliterated, not only to prevent subsequent adhesions, but to avoid infection of the peritoneal cavity from the intestinal canal. All undue mechanical irritation of the peritoneum, by long exposure, undue manipulation, or prolonged contact with foreign material, such as dry gauze compresses or plugs, must be avoided, as must also any accumulation of extravasated blood, which may later become organised into fibrous tissue. With a view to inhibiting the formation of organised tissue during the period required for the healing of the peritoneal lesion, a 3·8 per cent. solution of citrate of soda should be used for soaking gauze compresses, &c., and for washing away blood and other exudates from the peritoneal cavity. It was doubtful whether drainage-tubes were of any service except to drain distinct abscess cavities and the pelvic cavity when it is practically a large abscess, and it was certainly pernicious to retain them for any length of time, as ulceration might result from their pressure on the bowel. The retaining safety-pin should never be inserted through the centre, as the lumen was thus partially occluded. As to sutures, if the skin edges are united by non-absorbent material, such as silk or silkworm gut, not less than 10 days should elapse before removal in wounds which have healed by primary union. The patient after an abdominal operation should be kept in the recumbent position until it is felt that the cicatrix will not yield, and a good test of its complete organisation is that when pressed upon no difference can be felt between it and the surrounding parts; in other words, any obvious thickening along the line of the incision indicated that soft tissue was still present. On an average the period of recumbency may be taken as four weeks.—A discussion followed the address, in which Dr. H. Jones, Dr. G. Balfour Marshall, Dr. W. D. Macfarlane, and others took part.

Dec. 8th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal College of Surgeons in Ireland.

AT a meeting of the College, held on Dec. 5th, Mr. John B. Story, the President, in the chair, Surgeon-General R. H. Sawyer, A.M.S., was unanimously elected a Member of the Council in the place of the late Mr. Richard Dancer Purefoy.

Disease in Belfast.

At a meeting of the City Council, held on Dec. 1st, it was announced that between Oct. 19th and Nov. 15th 1 case of typhoid, 700 of scarlet fever, 2 of puerperal fever, 18 of diphtheria, 32 of erysipelas, and 1 of cerebro-spinal fever had been notified, as well as 101 of tuberculosis. During the same period there were in Belfast 860 births and 537 deaths, making a natural increase of 323. There were from zymotic disease 63 deaths, 51 from pulmonary tuberculosis, 69 from diseases of the respiratory organs, 42 from pneumonia, making a total of 111 from chest affections. Ninety children under 1 year died in the same period. The death-rate from all causes was 17·4, from zymotic diseases 2·0, and from chest affections 5·3 per 1000 of the population. It was reported that the scarlatina epidemic was subsiding.

Typhoid Outbreak at Castlederg.

In the Spamount district of Castlederg, co. Tyrone, there is an outbreak of typhoid fever, nine cases being

still in the workhouse fever hospital. It is supposed to be due to pollution of the village water-supply.

Annual Dinner of the Ulster Medical Society.

The annual dinner of the Ulster Medical Society was held in the Medical Institute, Belfast, on Dec. 3rd, when the available accommodation was made full use of. The President of the society, Mr. A. Fullerton, who occupied the chair, proposed the health of one of the special guests of the evening, Sir W. Arbuthnot Lane, referring to his Irish parentage and to his epoch-making work in surgery in the departments of cleft palate, fractures of bone, and stasis in the colon. Professor J. A. Lindsay proposed "The Dublin School of Medicine," referring to its work and its leaders, especially the late Dr. James Little, to which the President of the Royal College of Physicians (Dr. James Craig) and the Presdent of the Royal College of Surgeons (Mr. John B. Story) replied. Sir Thomas Myles made a humorous speech. Sir W. Arbuthnot Lane proposed the toast of "The Belfast Medical School," coupled with the name of Sir John Byers, who, in replying, spoke of the early history of medicine in the north of Ireland, and of the origin and evolution of the Belfast School of Medicine. He mentioned the fact that there were this year over 600 medical students in attendance, his own class at the university numbering 108. Like other speakers, he referred in warm terms to the work done by old members of the school at the war, where Mr. Fullerton and Professor Thomas Sinclair had been consulting surgeons. Mr. R. J. Johnstone proposed "The President," who responded, and in turn gave the health of "The Secretary of the Society," to which Dr. C. G. Lowry replied. Not for many sessions has there been a more successful function.

Address by Sir W. Arbuthnot Lane.

On Dec. 4th, under the auspices of the Ulster Medical Society, the President, Mr. A. Fullerton, in the chair, Sir W. Arbuthnot Lane gave an address before a crowded audience on "The Evolution of Disease," in which he dealt with the results of intestinal stasis. In the forenoon, at the Royal Victoria Hospital, he "plated," in one of the surgical theatres, a difficult fracture of the humerus, before a large class of students.

Students at the Queen's University of Belfast.

During the session 1919–20 the number of students enrolled up to the present date in the Queen's University of Belfast amount to 1024. Arranged in faculties, the numbers are as follows: medicine, 590; science, 192; arts, 181; commercial, 43; law, 10; social service, 8. These figures demonstrate that, in the Queen's University of Belfast, there are in the medical school this session 156 students more than in all the other faculties combined.

Dec. 9th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Electrocution of a Radiographer.

Dr. Jaugeas, a medical man who had served as assistant radiologist to Dr. Beclize at the St. Antoine Hospital for the last 17 years, has been killed under peculiar circumstances. He was called one morning to the Neuilly Hospital, where an American radiographic apparatus is in use, and was fitting up a Coolidge tube, when at the moment of establishing contact with the electric current he was electrocuted. This is the first accident of this kind to happen in France. Specialists called in to inquire into the circumstances have suggested that the danger is inherent in the American form of apparatus, and have issued a word of caution.

The Grancher Foundation.

The Foundation of Grancher for the prevention of tuberculosis among children continued its good work during the war in spite of difficulties. There are at present 404 children under its care in Paris alone. The generosity of the American Red Cross in paying half the expenses of 400 children for the current year has enabled the Foundation, whose annual expenditure is 350,000 francs, to carry on for the present. The centre in Paris is being federated with the daughter foundations in the provinces, of which 18 are already in existence and others in process of formation, notably one in Strasburg.

The Water-Diviner.

Tales attributing to certain people the magic power of discovering the existence of underground springs or of sheets of water have rightly been regarded with a great amount of scepticism. Chevreul, after studying the question closely, solemnly declared that the power rested on no conceivable scientific foundation. However, certain authentic observations have been recorded, controlled by persons above suspicion. The Academy of Science has recently taken up the subject again, after a communication from Dr. Morage, of the Sorbonne, on experiments recently made in Tunis by an engineer of some standing, M. Landesque, who thought that he himself was endowed with this mysterious power. The divining rod or pendulum is set into motion by the unconscious movement of the hands of the diviner when he passes over a spring, whence the old French name of "sourcier," which has been corrupted into "sorcier" (cf. sorcerer). These slight movements of the hands are involuntary, and the problem resolves itself into that of the cause underlying them. Is it possible that they are influenced by radio-active emanations coming from the water, and perceived only by certain people? M. Landesque, following up his experiments, states that the power is not very rare, and that 50 per cent. of people selected haphazard were found to be endowed with it without knowing it. In the course of varied experiments, ingeniously contrived, during which diviners were occasionally conducted over water pipes, they were able to determine not only the presence but the approximate amount of water, its depth, and even the direction of its flow. There is a vast amount of recorded experiment where the results were negative.

Increase of Exophthalmic Goitre during the War.

Dr. Raoul Blondel has brought to the notice of the Academy of Medicine in Paris the greater frequency of exophthalmic goitre since the war; doubtless this increase has been influenced by the strain of varied and violent emotions. The disease is generally rare among men, but has been observed in many soldiers in the trenches, whereas women resident in bombarded areas have been specially liable to be attacked thereby. Dr. Blondel has emphasised specially those cases in which symptoms are limited to exophthalmia and hypertrophy of the thyroid without tachycardia or tremors. Trophic changes accompanying Basedow's syndrome and associated with hyperthyroidism are numerous and varied. One of these, peculiarly important in France at present, is uterine atrophy, leading sometimes to sterility even if menstruation does not wholly cease. Dr. Blondel advises thymic extract for these patients, sometimes combined with local treatment. Occasionally he has seen excessive fat development following this line of treatment.

Dec. 8th.

DURING the past month there have been three meetings of the Harrogate Medical Society, Dr. Bertram Watson, the President, being in the chair on each occasion. At the first meeting Dr. W. Edgecombe read a paper on the Modern Conception of Heart Disease. This paper gave a comprehensive survey of the diagnosis, treatment, and prognosis of cardiac disease by modern methods, and was largely based on the author's own experience gained as officer in charge of a section of the Northern Command Cardiac Centre. The two following meetings were devoted to a discussion on Chronic Arthritis, the subject being dealt with under six headings, each of which was introduced by a paper as follows: Ætiology, by Dr. R. J. Morris; Morbid Anatomy and Nomenclature, by Dr. Kerr Pringle; Radiography, by Dr. Claude Saberton (illustrated by lantern slides); Bacteriology, by Dr. Sinclair Miller; Surgery, by Mr. Herbert Frankling; Therapeutics, by Dr. Lionel Calthrop. An interesting discussion followed, in which many members took part.

URBAN VITAL STATISTICS.

VITAL STATISTICS OF LONDON DURING NOVEMBER, 1919.

IN the accompanying table will be found summarised statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious disease it appears that the number of persons reported to be suffering from one or other of the ten diseases notified in the table was equal to an annual rate of 11·1 per 1000 of the population, estimated at 4,026,901 persons; in the three preceding months the rates had been 4·9, 6·6, and 10·1 per 1000. Among the metropolitan boroughs the lowest rates from these diseases were recorded in Kensington, Hammersmith, Chelsea, St. Marylebone, Hampstead, and the City of London; and the highest in Finsbury, Bethnal Green, Southwark, Greenwich, and Lewisham. The prevalence of scarlet fever showed a slight increase over that recorded in the preceding month, and was considerably higher than in any other month of the present year; this disease was proportionally most prevalent in Islington, Finsbury, Southwark, Lambeth, Battersea, Deptford, Greenwich, and Lewisham. The Metropolitan Asylums Hospitals contained 2848 scarlet fever patients at the end of the month, against 1409, 1633, and 2293 at the end of the three preceding months; the weekly admissions averaged 427, against 184, 265, and 340 in the three preceding months. Diphtheria was slightly more prevalent than in the month of October, and was considerably higher than in any other month of the present year; the greatest proportional prevalence of this disease was recorded last month in Fulham, Stoke Newington, Hackney, Holborn, Shoreditch, Bethnal Green, Southwark, and Woolwich. The number of diphtheria patients under treatment in the Metropolitan Asylums Hospitals, which had been 1001, 1168, and 1405 at the end of the three preceding months, further rose to 1572 at the end of November; the weekly admissions averaged 215, against 125, 180, and 207 in the three preceding months. The prevalence of enteric fever was somewhat less than in the preceding month; the 35 cases notified last month included 5 in Southwark, 4 in Hackney, 3 in Islington, 3 in Finsbury, 3 in Woolwich, and 3 in the Port of London. There were 44 cases of enteric fever under treatment in the Metropolitan Asylums Hospitals at the end of the month, against 43, 49, and 47 at the end of the three preceding months; the weekly admissions averaged 5, against 7, 7, and 6 in the three preceding months. Erysipelas was proportionally most prevalent in Stoke Newington, Finsbury, Bethnal Green, Poplar, and Southwark. The 53 cases of puerperal fever, included 8 in Fulham, 8 in Islington, 5 in Lambeth, 4 in Stepney, and 4 in Camberwell. Of the 11 cases of cerebro-spinal meningitis, 4 belonged to Poplar, 2 to Stepney, and 2 to Battersea; while the 4 cases of poliomyelitis belonged respectively to Hammersmith, Fulham, Battersea, and Camberwell.

The mortality statistics in the table relate to the deaths of civilians actually belonging to the several boroughs, the deaths occurring in institutions having been distributed among the boroughs in which the deceased persons had previously resided. During the four weeks ended Nov. 29th the deaths of 4500 London residents were registered, equal to an annual rate of 14·6 per 1000; in the three preceding months the rates had been 9·9, 11·2, and 14·1 per 1000. The death-rates last month ranged from 11·0 in Stoke Newington, 11·3 in the City of London, 12·0 in Woolwich, 12·2 in Holborn, 12·3 in Fulham, and 12·3 in Deptford, to 16·9 in Shoreditch, 17·1 in Poplar, 17·3 in Chelsea, 17·5 in Bethnal Green, 17·6 in Greenwich, and 18·0 in Finsbury. The 4500 deaths from all causes included 238 which were referred to the principal infectious diseases; of these 34 resulted from measles, 8 from scarlet fever, 85 from diphtheria, 22 from whooping-cough, 1 from enteric fever, and 88 from diarrhœa and enteritis among children under 2 years of age. Among the metropolitan boroughs the lowest death-rates from these diseases were recorded in St. Marylebone, Hampstead, Stoke Newington, Holborn, Shoreditch, Battersea, and Wandsworth, and the highest in Finsbury, the City of London, Bethnal Green, Poplar, Bermondsey, and Deptford. The 34 deaths from measles were less than a third of the average number in the corresponding period of the five preceding years; of these deaths, 6 belonged to Deptford, 5 to Lambeth, 5 to Camberwell, 4 to Bermondsey, 3 to Poplar, and 3 to Greenwich. The 8 fatal cases of scarlet fever were 18 fewer than the average number, and included 3 in Lewisham. The 85 deaths from diphtheria exceeded the average by 4; the greatest proportional mortality from this disease occurred in Chelsea, Hackney, the City of London, Bethnal Green, and Woolwich. The 22 fatal cases of

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING NOVEMBER, 1919.
(*Specially compiled for* THE LANCET.)

CITIES AND BOROUGHS.	Estimated civil population, 1917.	Notified Cases of Infectious Disease.											Deaths from Principal Infectious Diseases.									
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cerebro-spinal meningitis.	Poliomyelitis.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Enteric fever.	Diarrhœa and enteritis (under 2 years).	Total.	Annual rate per 1000 persons living.	Deaths from all causes.	Death-rate per 1000 living.
LONDON	**4,026,901**	—	**1874**	**1017**	—	**35**	—	**53**	**424**	**11**	**4**	**3418**	**11·1**	—	**34**	**8**	**85**	**22**	**1**	**88**	**238**	**0·8**	**4500**	**14·6**
West Districts:																								
Paddington	122,507	—	50	26	—	—	—	1	8	—	—	85	9·0	—	—	—	2	—	—	3	5	0·5	157	16·7
Kensington	151,535	—	41	30	—	—	—	1	9	—	—	81	7·0	—	—	—	3	—	—	4	7	0·6	149	12·8
Hammersmith	114,952	—	24	26	—	1	—	—	12	—	1	64	7·3	—	—	—	2	1	—	6	9	1·0	123	13·9
Fulham	145,186	—	37	51	—	2	—	8	11	—	1	110	9·9	—	—	1	4	—	—	1	6	0·5	137	12·3
Chelsea	57,368	—	22	2	—	—	—	—	5	—	—	29	6·6	—	—	1	2	1	—	—	4	0·9	76	17·3
City of Westminst'r	122,046	—	46	16	—	2	—	—	11	—	—	75	8·0	—	1	—	3	—	—	2	6	0·6	131	14·0
North Districts:																								
St. Marylebone	92,796	—	29	14	—	—	—	—	2	—	—	45	6·3	—	—	—	—	—	—	1	1	0·1	105	14·7
Hampstead	75,649	—	15	9	—	2	—	1	8	—	—	35	6·0	—	—	—	—	—	—	2	2	0·3	74	12·8
St. Pancras	186,600	—	76	33	—	—	—	2	20	—	—	131	9·2	—	—	—	2	3	—	5	10	0·7	213	14·9
Islington	297,102	—	211	73	—	3	—	8	21	—	—	316	13·9	—	2	—	5	1	1	6	15	0·7	361	15·8
Stoke Newington	47,426	—	20	20	—	—	—	—	10	—	—	50	13·7	—	—	—	—	—	—	1	1	0·3	40	11·0
Hackney	196,598	—	82	78	—	4	—	1	26	—	—	191	12·7	—	—	—	8	—	—	3	11	0·7	228	15·1
Central Districts:																								
Holborn	35,303	—	9	12	—	—	—	—	2	—	—	23	8·5	—	—	—	—	—	—	1	1	0·4	33	12·2
Finsbury	68,011	—	51	12	—	3	—	—	12	—	—	78	15·0	—	2	—	1	—	—	3	6	1·2	94	18·0
City of London	16,138	—	2	4	—	1	—	—	—	—	—	7	5·7	—	—	—	1	—	—	1	2	1·6	14	11·3
East Districts:																								
Shoreditch	80,675	—	34	29	—	—	—	2	5	—	—	70	10·2	—	1	—	1	—	—	1	3	0·4	116	16·9
Bethnal Green	107,362	—	35	68	—	—	—	3	25	—	—	131	15·9	—	—	—	9	2	—	7	18	2·2	144	17·5
Stepney	232,010	—	91	67	—	1	—	4	35	2	—	200	11·2	—	1	—	4	2	—	7	14	0·8	257	14·4
Poplar	143,443	—	35	40	—	1	—	2	23	4	—	105	9·5	—	3	—	4	4	—	5	16	1·5	188	17·1
South Districts:																								
Southwark	167,936	—	100	54	—	5	—	3	26	—	—	188	14·6	—	1	1	1	—	—	7	10	0·8	206	16·0
Bermondsey	107,635	—	44	26	—	1	—	—	8	—	—	79	9·6	—	4	—	—	2	—	3	9	1·1	127	15·4
Lambeth	272,038	—	169	62	—	—	—	5	31	—	—	267	12·8	—	5	1	9	—	—	4	19	0·9	339	16·2
Battersea	150,023	—	95	19	—	1	—	—	19	2	1	137	11·9	—	—	—	2	—	—	2	4	0·3	151	13·1
Wandsworth	300,787	—	112	73	—	1	—	3	25	1	—	215	9·3	—	—	1	4	4	—	1	10	0·4	285	12·4
Camberwell	239,461	—	116	54	—	—	—	4	22	—	1	197	10·7	—	5	—	8	2	—	3	18	1·0	258	14·0
Deptford	103,527	—	68	17	—	—	—	2	10	—	—	97	12·2	—	6	—	—	—	—	4	10	1·3	98	12·3
Greenwich	90,440	—	85	15	—	—	—	2	10	1	—	113	16·3	—	3	—	1	—	—	3	7	1·0	122	17·6
Lewisham	161,405	—	143	43	—	1	—	1	17	1	—	206	16·6	—	—	3	4	—	—	1	8	0·6	153	12·4
Woolwich	131,942	—	32	44	—	3	—	—	11	—	—	90	8·9	—	—	—	5	—	—	1	6	0·6	121	12·0
Port of London	—	—	—	—	—	3	—	—	—	—	—	3	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

whooping-cough were 18 less than the average, and included 4 in Poplar, 4 in Wandsworth, and 3 in St. Pancras. One death from enteric fever was registered during the month, against an average of 9. The 88 fatal cases of infantile diarrhœa were 47 below the average; this disease was proportionally most fatal in Hammersmith, Finsbury, the City of London, Bethnal Green, Southwark, and Deptford. In conclusion, it may be stated that the aggregate mortality in London during November from these principal infectious diseases was 40 per cent. below the average.

(Week ended Dec. 6th, 1919.)

English and Welsh Towns.—In the 96 English and Welsh towns, with an aggregate civil population estimated at 16,500,000 persons, the annual rate of mortality, which had been 13·9, 14·8, and 13·8 in the three preceding weeks, rose to 14·4 per 1000. In London, with a population slightly exceeding 4,000,000 persons, the annual death-rate was 14·5, or 0·2 per 1000 above that recorded in the previous week, while among the remaining towns the rates ranged from 4·8 in Blackpool and in Rotherham, 5·6 in Merthyr Tydfil, and 7·1 in Exeter, to 22·0 in Dewsbury, 22·8 in Rochdale, and 24·4 in West Hartlepool. The principal epidemic diseases caused 265 deaths, which corresponded to an annual rate of 0·8 per 1000, and comprised 82 from measles, 73 from diphtheria, 51 from infantile diarrhœa, 30 from whooping-cough, 25 from scarlet fever, and 4 from enteric fever. Measles caused a death-rate of 2·0 in Barrow-in-Furness, and 3·3 in Burnley and in Barnsley. The 77 deaths from influenza were 14 above the number recorded in the previous week, and included 16 in London, 6 in Sheffield, 5 in Liverpool, and 4 in Leeds. There were 2989 cases of scarlet fever and 1700 of diphtheria under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, against 2940 and 1603 respectively at the end of the previous week. The causes of 41 deaths in the 96 towns were uncertified, of which 12 were registered in Birmingham, 6 in London, 4 in Manchester, and 3 in Liverpool.

Scotch Towns.—In the 16 largest Scotch towns, with an aggregate population estimated at nearly 2,500,000 persons, the annual rate of mortality, which had been 12·6, 18·6, and 15·0 in the three preceding weeks, slightly rose to 15·3 per 1000. The 334 deaths in Glasgow corresponded to an annual rate of 15·6 per 1000, and included 10 from measles, 3 from infantile diarrhœa, 2 from diphtheria, and 1 each from scarlet fever and whooping-cough. The 106 deaths in Edinburgh were equal to a rate of 16·4 per 1000, and included 1 each from measles, scarlet fever, and diphtheria.

Irish Towns.—The 137 deaths in Dublin corresponded to an annual rate of 17·6, or 2·5 per 1000 above that recorded in the previous week, and included 5 from infantile diarrhœa, 2 from whooping-cough, and 1 each from scarlet fever and diphtheria. The 169 deaths in Belfast were equal to a rate of 22·0 per 1000, and included 15 from measles, 9 from scarlet fever, and 1 each from diphtheria and infantile diarrhœa.

The Services.

THE HONOURS LIST.

THE following appointments for services rendered in Egypt and in the Sudan are announced:—

Egypt.

M.B.E.—Dr. R. G. White, Sub-Director of Laboratories, Dept. of Public Health; Dr. C. Hayward, P.M.O., Port Said Hospital.

Sudan.

C.B.E.—Dr. J. B. Christopherson, Director, Khartoum and Omdurman Civil General Hospitals.

FOREIGN DECORATIONS.

Belgian.

Croix de Guerre.—Temp. Capt. (acting Maj.) D. E. Crosbie, M.C., R.A.M.C.

Egyptian.

Order of the Nile.—3rd Class: Temp. Capt. (acting Lt.-Col.) W. Angus, R.A.M.C.; Lt.-Col. and Bt. Col. (temp. Col.) W. H. Ogilvie, C.M.G., I.M.S. *4th Class:* Capt. C. H. Allen, O.B.E., R.A.M.C. (T.F.); Maj. D. G. R. S. Baker, I.M.S.; Capt. H. H. Brown, I.M.S.; Temp. Capt. R. H. Hadfield, R.A.M.C.; Temp. Capt. W. N. Montgomery, R.A.M.C.; Maj. S. H. Seccombe, Austr. A.M.C.

French.

Légion d'Honneur.—Officier: Maj.-Gen. Sir T. Yarr, K.C.M.G., C.B., A.M.S. *Chevalier:* Capt. (acting Lt.-Col.) D. C. L. Fitzwilliam, R.A.M.C. (T.F.); Temp. Capt. A. E. Staffurth, R.A.M.C.

Hellenic.

Medal for Military Merit.—3rd Class: Capt. J. R. Hill, R.A.M.C.; Maj. (acting Lt.-Col.) O. Ievers, D.S.O., R.A.M.C.; Lt.-Col. M. M. Lowsley, D.S.O., R.A.M.C.; Lt.-Col. and Bt. Col. (temp. Col.) W. H. S. Nickerson, V.C., C.M.G., R.A.M.C.; Capt. J. Patrick, R.A.M.C. (T.F.); Temp. Capt. (acting Maj.) W. H. Welsh, R.A.M.C. *4th Class:* Temp. Capt. J. C. M. Bailey, O.B.E., R.A.M.C.

ROYAL NAVAL MEDICAL SERVICE.

Placed on the Retired List, with the rank of Surgeon-Captain: Surg.-Cmdrs. G. Ley and E. C. Cridland.

Temp. Surg.-Lieuts. J. D. Clarke, L. R. Warburton, G. E. Heath, N. B. de M. Greenstreet have been transferred to the permanent list of Surgeon-Lieutenants, R.N.

Surg. Lieut.-Cmdr. H. White transferred to Emergency List.

Lieutenants to be Lieutenant-Commanders: G. W. Hill, R. M. Stopford.

ARMY MEDICAL SERVICE.

Major-Gen. Sir H. N. Thompson and Col. N. Faichnie are placed on the Half-pay List.

Cols. A. Kennedy, G. H. Barefoot, and G. W. Tate retire on retired pay.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Col. and Bt. Col. W. H. S. Nickersen, V.C., relinquishes the temporary rank of Colonel.

Lieut.-Col. J. E. Brogden (Half-pay List) retires on retired pay on account of ill-health contracted on active service.

Capt. W. Mathieson relinquishes the acting rank of Major.

Major J. A. Turnbull relinquishes the acting rank of Lieutenant-Colonel on ceasing to command a Medical Unit.

The undermentioned relinquish the acting rank of Lieutenant-Colonel: Capts. and Bt. Majors G. H. Dive, H. H. Blake, Majors G. B. Edwards, C. H. Denyer, D. de C. O'Grady, E. M. O'Neill, A. M. Rose, A. C. Elliott, J. C. G. Carmichael, B. H. V. Dunbar, C. R. Millar, L. A. A. Andrews, W. H. Forsyth, W. B. Purdon, F. A. McCammon, Capts. H. C. D. Rankin, O. W. McSheehy, T. E. Eves, R. G. Shaw, P. Carney, E. Percival, J. Rowe; Temp. Capts. G. L. Leggat, H. C. Watson, A. J. Blake, F. D. Johnson.

To be Acting Lieutenant-Colonels: Capt. (acting Major) W. D. Anderton, Temp. Capt. (acting Major) F. K. Kerr, Temp. Capt. G. L. Leggat.

The undermentioned relinquish their commissions on ceasing to serve with the British Red Cross Society in France, and retain their honorary rank: Temp. Hon. Lieut.-Col. L. N. Robinson, Temp. Hon. Majors C. G. Jarvis and E. H. Hicks.

The undermentioned relinquish the acting rank of Major: Capts. and Bt. Majors Henry F. Panton, R. Gale, S. W. Kyle, Capts. C. R. Dudgeon, G. P. Kidd, C. Kelly, J. Biggam, C. K. G. Dick, J. R. Yourell, C. H. Stringer, M. Morris, C. F. Burton, W. S. Martin, Temp. Capts. W. Martin, A. G. Howson, J. P. Jones, C. E. Meryon, A. C. Lambert, W. S. S. Berry, J. W. Simon, A. A. Wilson, R. W. P. Jackson, A. T. W. Forrester, D. G. Wishart, A. Fletcher, H. H. L. Ellison, G. Muir, T. E. Coulson, J. M. Macfie, R. Massie, G. Wilson, J. G. Duncanson, H. H. Elliot, E. Biddle, G. R. B. Purce, A. R. Esler, N. E. Kendall, W. H. Sheffield, A. G. Southcombe, W. A. Todd.

Capt. (acting Major) J. R. Yourell relinquishes the pay and allowances of his acting rank.

To be acting Majors: Capts. C. H. Stringer, C. Clarke, P. H. Wells, Temp. Capts. W. Brown, R. S. Gibson, A. W. Rattrie, R. S. Morshead, W. J. Oliver, J. S. Lloyd, J. R. Pate, J. G. M. Sloane.

Capt. E. Jamieson resigns his commission.

To be Captains: Temp. Capt. (acting Major) G. G. B. Holroyde, Capt. (acting Major) B. L. Davis (from T.F.), Capts. A. G. G. Thompson (from T.F.), O. J. O'B. O'Hanlon (from Spec. Res.), A. R. F. Clarke (from Spec. Res.), R. H. Hodges (from Spec. Res.), Temp. Capt. J. Higgins, Lieuts. (temp. Capts.) D. H. Coats, G. T. Garraway, P. G. Russell, H. J. Davidson.

Temp. Capt. H. J. Bensted to be Lieutenant and to be temporary Captain.

J. B. Morrison, late Captain, Can. A.M.C., to be temporary Captain.

F. Formosa and W. C. McKee to be temporary Lieutenants.

Officers relinquishing their commissions:—Temp. Capt. (acting Lieut.-Col.) A. G. Stewart (granted the rank of Lieutenant-Colonel). Temporary Captains granted the rank of Major: C. H. B. Bootle, D. F. O'Kelly, (acting Major) A. Abrahams. Temp. Capt. (acting Major) A. C. Keep. Temporary Captains retaining the rank of Captain: E. E. Semmence, W. J. Purdy, J. L. Graham-Jones, T. G. Brown, St. G. M. L. Homan, J. Hutchison, D. A. D. Kennedy, T. P. Herriot, J. Kirton, G. J. Bowen, G. P. Jones, C. I. Milne, G. Rickman, M. B. Reichwald, R. D. Buchanan, W. Cullen.

M. R. Lawrence, C. J. Scholtz, F. J. Kirkness, T. Fraser, H. P. Harpur, G. R. D. McGeagh, D. A. Laird, J. R. Turner, J. T. MacKenzie, F. Vause, J. F. E. Prideaux, D. B. Pascall, T. W. Melhuish, L. E. Pimm, P. J. Verrall, W. E. Hopkins, J. R. Briscoe, A. D. Rope, J. F. Wood, A. A. Martin, F. Ritchie, A. J. McNair, L. H. Taylor, L. C. G. Bacon, J. Black, T. A. Hawkesworth, J. G. Ackland, J. B. Burgess, H. L. McCormick, C. G. T. Mosse, R. S. Ross, A. L. Badcock, S. G. Platts, E. Scott-White, H. A. Kisch, G. T. Loughborough, C. Rutherford, E. Baldwin, H. B. Binks, H. Fraser, D. McFarlane, D. J. Harries, K. J. Aveling, W. M. Oakden, C. D. Coyle, C. H. Seville, D. M. Smith, F. L. Nash-Wortham, C. C. Kerby, F. S. Collard, W. L. Nicholson. Temp. Lieut. R. Herley. Temporary Lieutenants retaining the rank of Lieutenant: J. Stewart, M. J. Gibson.

The undermentioned relinquish their commissions and retain their honorary rank: On ceasing to serve with No. 2 British Red Cross Hospital: Temp. Hon. Capt. R. J. C. Douty. Temp. Hon. Lieut. J. Lindsay. Temp. Hon. Major L. F. Knuthsen, on ceasing to serve with No. 5 British Red Cross (Anglo-American) Hospital.

GENERAL RESERVE OF OFFICERS.

Major J. E. Carter is granted the rank of Lieutenant-Colonel on ceasing to be re-employed.

SPECIAL RESERVE OF OFFICERS.

The undermentioned Captains relinquish the acting rank of Major: J. R. Crolius, J. A. Pridham, O. H. Mavor, H. R. Friedlander, T. C. Storey, R. F. Fagan, A. F. L. Shields.

Capt. W. McM. Chesney to be acting Major.

The undermentioned Captains relinquish their commissions and retain the rank of Captain: M. J. Burns, R. D. Lawrence.

TERRITORIAL FORCE.

Lieut.-Col. S. M. Sloan relinquishes his commission and retains the rank of Lieutenant-Colonel.

Capt. (acting Col.) L. D. B. Cogan reverts to the acting rank of Lieutenant-Colonel on vacating the appointment as Assistant Director of Medical Services.

Capt. W. H. Willcox, from 3rd London General Hospital, to be Colonel.

Capts. (acting Majors) J. P. Milton, A. M. Jones, W. Goldie, J. G. Morgan, and G. Davidson relinquish the acting rank of Major on ceasing to be specially employed.

Capt. Y. T. G. Moore to be Major.

Capt. (acting Major) H. W. Spaight relinquishes the acting rank of Major on vacating the appointment of Deputy Assistant Director of Medical Services.

5th London General Hospital: Capt. J. M. Wyatt is restored to the establishment.

5th Southern General Hospital: Capt. M. D. Wood is restored to the establishment.

4th Scottish General Hospital: Capt. (acting Major) J. R. Riddell relinquishes the acting rank of Major on ceasing to be specially employed.

ROYAL AIR FORCE.

Medical Branch.—Flight Lieut. (acting Sqdn. Leader) W. Darling to be acting Wing Commander whilst specially employed.

Flight Lieut. (acting Sqdn. Leader) H. M. S. Turner to be acting Wing Commander whilst so employed.

The undermentioned Flying Officers to be Flight Lieutenants: P. C. Parr, M. Hyman, A. Briscoe, E. G. O'Gorman, C. McC. Jones, S. G. Seymour, W. E. Sheil.

The undermentioned are transferred to the Unemployed List: Capts. J. A. Johnson, B. H. Swift, Lieut. M. M. Price.

Dental Branch.—Capt. H. L. Thorn is transferred to the Unemployed List.

INDIAN MEDICAL SERVICE.

Lieutenant-Colonel to be Colonel: B. Nauth.

Majors to be Lieutenant-Colonels: H. D. Peile, D. H. F. Cowin, W. H. Tucker, Manmatha Nath Chaudhuri, A. C. MacGilchrist, J. W. D. Megaw, E. O. Thurston, (Bt. Lieut.-Col. and temp. Col.) G. Browse, (Bt. Col.) C. M. Goodbody, R. Steen, F. F. Elwes, E. A. C. Matthews, L. P. Stephen, L. E. Gilbert, T. G. N. Stokes, H. M. Mackenzie, M. H. Thornely, F. V. O. Beit, W. O'S. Murphy, M. Corry, C. C. Murison, H. A. Williams.

Captains to be Majors: H. W. Acton, (Bt. Major) R. E. Wright, F. A. Barker, D. Coutts, A. N. Thomas, W. J. Simpson, F. Stevenson, S. H. Middleton-West.

ENLARGEMENT OF BOLTON INFIRMARY.—The Bolton Infirmary committee propose to increase the hospital accommodation to meet the increased needs of the borough. This will involve a capital expenditure of £100,000. Mr. E. P. Potter has made a gift of a residence to the infirmary to be used as a convalescent home; it will provide accommodation for 50 beds.

Correspondence.

"Audi alteram partem."

THE TREATMENT OF MALARIA.

To the Editor of THE LANCET.

SIR,—The discussion on the Treatment of Malaria held at the Medical Society of London on Nov. 24th last and reported in your issue of Dec. 6th (p. 1034) formed a most interesting and profitable contribution to this difficult subject. After a very extensive experience of the treatment of a large number of malarial cases during the three years 1916–19 in Mesopotamia, as consulting physician to the Expeditionary Force, I formed the following conclusions:—

1. The method of administration of quinine is most important, and from experience of a great number of cases where the drug has been given in various ways I am of opinion that the intravenous method is the one in which the greatest therapeutic effect is obtained. Closely following this method is the intramuscular injection and, "longo intervallo," administration by the mouth and rectum.

2. The therapeutic values of quinine bihydrochloride when given rectally, orally, intramuscularly, or intravenously for a given dose would, in my opinion, be approximately represented by the figures 1, 2, 20, and 40—e.g., 5 gr. given intravenously would be equivalent in therapeutic value to 100 gr. given by the mouth.

3. The subcutaneous administration of quinine is liable to be followed by necrosis and suppuration, and should, I think, be avoided.

4. The choice—"intravenous" or "intramuscular" administration—would depend in many cases on the presence of easily accessible veins suitable for intravenous injections. If there is difficulty in this respect it is wiser to adopt the intramuscular method.

5. In tropical countries acute diseases such as influenza, enteric, typhus, relapsing fever, heat hyperpyrexia, sandfly fever, &c., are very commonly complicated by malaria, the clinical evidence being a markedly enlarged spleen in addition, possibly, to the history of malaria. The combination produces an acute and dangerous condition, and in such cases it is most necessary that quinine bihydrochloride should be given intravenously or intramuscularly without delay, since by this means a serious and often fatal complication is quickly abolished.

6. In cases of malignant malaria and in recurring malaria of the benign tertian or quartan type with splenic enlargement, I am strongly of opinion that courses of treatment should commence with from 3 to 6 intravenous or intramuscular injections of quinine, and afterwards oral treatment carried out—e.g., 10 gr. of quinine bihydrochloride in solution three times a day for a fortnight, and then "after-treatment" on the lines laid down in the pamphlet issued by the Ministry of Health, written by Sir Ronald Ross, K.C.B., F.R.S., and Lieutenant-Colonel S. P. James, I.M.S. Much better results are obtained by this method, and relapses are much less frequent.

7. In cases of malaria presenting acute cerebral symptoms the administration of quinine intravenously is of as much urgency as is the application of surgical measures in a case of fulminating appendicitis. A delay of a few hours may mean the death of the patient.

8. As regards dosage for intravenous injection, doses up to 10 gr. of quinine bihydrochloride dissolved in 10 c.cm. of normal saline are most suitable and sufficient. In conditions of collapse it is advisable to use larger quantities of saline—e.g., 1 pint.

9. For intramuscular injections doses of 10–15 gr. of quinine bihydrochloride in solution of strength 15 gr. of the salt in 2½ c.cm. of sterilised distilled water are best given deeply into the muscles of the buttock at a spot midway between the anterior superior iliac spine and the tip of the natal cleft. I have been much impressed by the toxic effect of quinine in certain patients showing an idiosyncracy, and have notes of one patient who developed a severe amaurosis following a dose of 10 gr.

of quinine orally on one day and 15 gr. similarly given on the next day. In such cases quinine must be discontinued entirely since there is risk of fatal blindness. The toxic effects of quinine are, in my experience, more likely to follow large doses by the mouth than those suggested for intravenous or intramuscular injection.

Before administering quinine in large doses the patient should always be questioned as to his susceptibility to toxic symptoms, and if there is any fear of this, or if the patient has not had quinine before, small doses should be commenced with.

I am, Sir, yours faithfully,

W. H. WILLCOX, M.D., F.R.C.P.

Welbeck-street, W., Dec. 8th, 1919.

THE INSTABILITY OF RED BLOOD CELLS

PRESERVED IN THE METHOD OF ROUS AND TURNER.

To the Editor of THE LANCET.

SIR,—THE LANCET of Oct. 18th contains a paper by Professor G. Dreyer and Dr. A. D. Gardner under this heading in criticism of work by Dr. J. R. Turner and myself.[1] I beg to point out that our conclusions are mis-stated, a single one of the findings is subjected to test by a method fundamentally inappropriate, and on the basis thus afforded our work is used to point a moral, together with that of two English investigators, Professor J. S. C. Douglas and Dr. J. W. Bigger, who happen to have found it useful for their purposes. Hence I would like to discuss briefly the points at issue.

According to the opening paragraph of Professor Dreyer and his associate, Rous and Turner "stated that, under the conditions prescribed, the cells underwent no noteworthy change for a considerable period of time." Neither directly nor by implication does such a statement find place in our article. On the contrary, we make special note of the fact that preserved cells break down sooner in Locke's solution than do fresh cells—probably because of greater mechanical fragility—and we advocate a protective gelatin-Locke's solution in handling such cells. This latter should be employed wherever possible. Two quotations from our paper now follow: "'Cells kept for three weeks and for a month have been used for the Wassermann reaction and compared with cells freshly obtained from the same sheep. They had the same hæmolytic titre as fresh ones, and gave identical results in the reaction'"; and, as regards human erythrocytes, "'They remain intact for about four weeks.'" I have no reason to modify these assertions. Reimann[2] has confirmed in its essentials the statement with regard to the Wassermann reaction. And our critics themselves state, with an unusual lapse in accuracy for figures, that "a week or two after our last experiment the Rous-Turner suspension was found to show very marked spontaneous hæmolysis," or, in other words, a week or two after a period of 27 days, during which the cells remained intact.

Now comes the following sentences: "It thus appeared that an important contribution has been made to practical serology. But their (our) paper contains no adequate experimental demonstration of the accuracy of this statement." Indeed it does not. For inference and statement are alike the product of our critics. Our purposes were in no way serological but exactly as expressed in the title of our paper, "The Preservation of Living Red Blood Cells In Vitro." This we accomplished for rabbit cells, as was shown by the protocols of transfusion experiments, and, it would seem, for human cells as well, since the method was put to good use by Major O. H. Robertson[3] and others at the British battle-front. The extent of our serological assertions may be judged from the fact that the only hæmolytic tests mentioned or attempted with preserved cells were incident to the Wassermann reactions; that the carrying out of the reactions, as is noted in the text, was entrusted to a highly skilled outside worker; that the results, unlike the rest of the findings, are not given *in extenso*, a point to which Professor Dreyer objects; and, finally, by the mention in our summary of two methods of cell preservation for the Wassermann test as preferable to our own.

Professor Dreyer and Dr. Gardner introduce experiments to discredit our statement, and that of Professor Douglas and Dr. Bigger as well, about the Wassermann reaction—namely, that the preserved cells react with fair constancy to a serum hæmolysin. For the experiments they employ a vegetable hæmolysin, saponin; and they construct curves which show a rapid deterioration in the cell's resistance to this agent. I shall confess to a lack of interest in these curves. For here the real question is whether results with saponin give an index to those with a serum hæmolysin. It is difficult to understand how Professor Dreyer and Dr. Gardner omitted to make tests on the point, since saponin has long been known to behave very differently from the serum hæmolysins[4] and many chemical hæmolysins.[5] Indeed, tests with saponin fail to give an index to the red cells' resistance to hypotonic salt solution.[6] Yet Professor Dreyer and Dr. Gardner do not hesitate to generalise from their saponin curves, not merely as regards our work and that of Professor Douglas and Dr. Bigger, but as concerns the sensitiveness of preserved cells to hæmolysins in general. I need not comment on the moral drawn by Professor Dreyer and his associate of the necessity of testing all assumptions made in scientific work.

I am, Sir, yours faithfully,

PEYTON ROUS.

Rockefeller Institute for Medical Research, New York, Nov. 19th, 1919.

[1] Peyton Rous and J. R. Turner, Journal of Experimental Medicine, 1916, xxiii., 219.

[2] S. P. Reimann: Journal of Laboratory and Clinical Medicine, 1916–17, ii., 200.

[3] O. H. Robertson: Brit. Med. Jour., 1918, No. 2999, 691; also Report No. 4 of the Special Investigation Committee on Surgical Shock of the Medical Research Committee.

A SAMPLE OF THE POPULATION.

To the Editor of THE LANCET.

SIR,—It is evident that the statistics of the recruiting boards will have to be submitted to strict scrutiny before any conclusion is accepted, if Dr. J. D. Comrie's figures in THE LANCET of Nov. 29th are to lead to the conclusion that between the ages of 18 and 23 years a rapid deterioration of physique occurs.

There are two points to which I would draw your attention. First, all boys were called up for examination as they reached the age of 18; hence they form a more or less true sample at whatever period they are taken, while only some of those at the later ages are included in any batch examined. At first sight this may not seem of much moment except to a statistician, but in reality it vitiates any general conclusion. Suppose, for example, that in the normal population there are 1000 men of 23 of whom 500 have joined the army as A men. If in a sample of the residue we find two men out of four fit for service, we shall get a totally wrong conception of the general health at 23, unless we take into consideration the 500 fit men who have already passed the test; if we do this we find three men out of four fit, and the supposed deterioration after 18 vanishes.

An age curve constructed for a large number of men examined under the National Service showed that it comprised only two-fifths of the normal number corresponding to the actual number at 18 years, and that the years from 19 to 23 or so were almost blank. No comparison between the normal at 18 and the residue at 23 could therefore be of the slightest value, and though Dr. Comrie's material in 1915–16 would not show so marked a contrast between the numbers at 18 and 23, yet it is certain that it would be sufficient to destroy his conclusion.

In the second place, you speak, in your leading article in the same issue, of deterioration of physique. It is not generally recognised that the categories and grades have no relation to physical development. Men were not graded by physique, but by the presence or absence of defects. This is clearly shown by the fact that.

[4] H. Gideon Wells: Chemical Pathology, third edition, 1918.

[5] D. Rywosch: Arch. für Physiol., 1907, cxvi., 229.

[6] D. Rywosch: Loc. cit. C. McNeil: Journ Path. and Bact., 1911, xv., 56.

taking height as a criterion of physical development, among equal numbers taken from each grade the average height was almost the same for all grades. Deterioration of physique does exist, but it is not shown by the recruiting returns; it can, however, be shown from them by analysis of the heights of boys of 18 that the average height among factory workers is about an inch below the general average at that age. That deterioration is evidently environmental and not racial and is therefore amenable to preventive and remedial treatment by educational and social reforms.

We are too apt to be carried away by pithy phrases—e.g., "One cannot make an A 1 nation out of C 3 men." The 25 or 30 per cent. of Grade III. men on which this aphorism was founded was the result of the examination of some 2 million (or less) men out of a possible 10 or 12 millions; the remainder being either already in the forces in a higher category or protected at home for the performance of labour which could only be carried out by fit men. We are not a nation of C 3 men.

In conclusion, it may be noted that Dr. Comrie's classified defects are fairly typical of those generally observed, and are individual defects for the remedy of which there is required provision of more expert medical and surgical treatment than is offered by the panel system, and not only for the insured worker but for the children before they reach the age of the wage earner. More than that, it is necessary to see that such treatment is not only obtainable but obtained, and this can only be done by education, for compulsory health is even more an Utopian ideal than compulsory physical training.—I am, Sir, yours faithfully,

Carbis Bay, Dec. 3rd, 1919. D. F. SHEARER, F.R.C.S.

THE "GRIDIRON" INCISION.

To the Editor of THE LANCET.

SIR,—With reference to the article in THE LANCET of Dec. 6th by Dr. St. G. Griffiths on "The Frequency of Right Inguinal Hernia after Appendicectomy by the 'Gridiron' Incision," I would state that while at the R.N. Hospital, Plymouth, I had occasion to operate upon four cases of right inguinal hernia which had appeared after appendicectomy. In all cases Battle's method had been employed, and the herniæ appeared from one to four months later. As both conditions are specially common in the Service, it would seem impossible to draw any conclusion from the number of cases so far reported. Nevertheless, my impression was that as in these cases the incision was made at a rather lower level than usual, the weakening of the abdominal wall and the disturbance of the position of parts at the time of operation had favoured the speedy descent of a hernia into a pre-existing sac. In this respect at least a Battle's incision would appear to offer no advantage over the "gridiron."

I am, Sir, yours faithfully,

RICHARD A. BARLOW, M.B., F.R.F.P.S.

Glasgow, Dec. 8th, 1919.

COPPER-ALANIN IN INOPERABLE CANCER.

To the Editor of THE LANCET.

SIR,—On Nov. 7th, in the Section of Laryngology of the Royal Society of Medicine, I showed a case of lingual cancer in which the patient has derived considerable comfort from intravenous injections of aminoproprionate (alanin) of copper. Although the advance of the disease in this case would appear to have been arrested, microscopic sections taken during the treatment showed that histologically the epithelioma was unaltered. Full particulars will be given in the published proceedings of the section, and the object of this letter is to let medical men know where copper alanin can be obtained. The substance, the credit for suggesting which, amongst other forms of treatment for inoperable cancer, is due to Dr. Shaw-Mackenzie, was not made commercially in England before the war. It can now be obtained in 0·44 per cent. solution from Messrs. Boots's Research Laboratory, Island-street, Nottingham. My experience of the injections is that its administration in doses of from 1 to 2½ c.cm. has been attended only with benefit. It may be well to add that the benefit consists in a remarkable improvement in the general condition of the patients after one or two injections. The injections appear to retard the advance of the disease, but the experience so far obtained does not allow one to regard it as more than palliative. As long as the injections are continued from once to three times a week the arrest is maintained, but if they are omitted even for a week a fresh advance can always be noted. It would appear, however, from this that the intravenous injection of this form of copper salt has a retarding influence on the growth of cancer.

I am, Sir, yours faithfully,

JAMES DONELAN, Ch.M., M.B. R.Univ.Ir.

Manchester-square, W., Dec. 1st, 1919.

THE TREATMENT OF ANTRAL SUPPURATION.

To the Editor of THE LANCET.

SIR,—I would like to say a few words on Mr. Somerville Hastings's clear exposition which I enjoyed reading in THE LANCET of Nov. 29th. Persistence of suppuration in the antrum following an acute catarrh is presumably due to persistence of irritation. The irritant is usually a well of putrefying material as well as the bacteria infecting the mucous membrane. Removal of the putrefying exudate by irrigation and prevention of reaccumulation by making an opening from the nose into the antrum near the floor is the usual method of treatment practised. Bacteria still growing on the moist internal surface of the cavity can, however, call forth an exudation of fluid and leucocytes and this secretion may continue for some time. To rapidly destroy the germs without irritating the tissues is a problem which, as far as I know, has only been solved by using zinc ionisation.

To ionise the antrum it is necessary to puncture the nasal wall with a trocar and cannula, wash away accumulated secretion, and then fill the cavity with weak sulphate of zinc solution. The cannula which conveyed the fluid can be utilised to convey the electric current, if it has been insulated on its outer surface by several coats of varnish. In an uncomplicated case—that is, one in which there is no ethmoidal or frontal sinus disease, no caries, and no polypi—complete subsidence of suppuration may be in most cases expected to occur forthwith without further treatment.

Treatment by ionisation naturally does not contra-indicate an attempt being made to diminish the liability to severe colds in the patient subsequently by vaccines.

I am, Sir, yours faithfully,

Devonshire-place, W., Dec. 8th, 1919. A. R. FRIEL.

SOME USES OF DIATHERMY.

To the Editor of THE LANCET.

SIR,—Mr. Norman Patterson's excellent article in THE LANCET of Dec. 6th on the Treatment of Epithelioma of the Mouth and Pharynx by Diathermy ought to help towards remedying the "little general recognition of its value" which he mentions. A somewhat extensive experience of its use in cases of cancer of the tongue, often extending on to the floor of the mouth and the pillars of the fauces, sometimes invading the tonsil, encourages me to endorse his opinion that "in cancer of the bucco-pharyngeal cavity it ought entirely to supersede cutting operations." The diathermic method renders the actual operation less formidable and the convalescence more tolerable. So far my cases have run an almost apyrexial post-operative course, and any secondary hæmorrhage has been trifling. The functional results where the whole tongue was not removed are excellent. It is too soon to speak of the ultimate results, as I have only made use of the method for two years.

Diathermy is also to be recommended as a palliative measure in "inoperable" cases of carcinoma of the cervix uteri (either destroying as much growth as possible by means of a button electrode or carrying out a supra-vaginal amputation of the cervix by the spatula

electrode), as well as in the treatment of the cervix preliminary to hysterectomy in operable cases. Its use in tumours, both benign and malignant, of the urinary bladder is more generally recognised.

In my operations I have had the advantage of the collaboration of Dr. Claude Saberton, who has taken charge of the electrical side, and has also carried out a course of prophylactic radiation in all cases as soon as possible after the operation.

I am, Sir, yours faithfully,

Harrogate, Dec. 8th, 1919. HERBERT FRANKLING.

THE PREVENTION OF VENEREAL DISEASE.

To the Editor of THE LANCET.

SIR,—If we all thought and acted with the common sense of Sir Charters Symonds's letter in your issue of Dec. 6th "most painful and unnecessary" controversies would be few and right measures would usually be taken quickly. His advice is so good that I feel sure that the National Council will ultimately adopt it. It is impossible to believe that men will continue to hold that slow disinfection is moral and quick disinfection immoral. Indeed, having regard to recent history, I have a notion that in a year or two the National Council will not only advocate immediate disinfection, but will believe that it has always advocated it. However, in large measure, the matter has passed out of its hands; in any case, it is not likely to act with sufficient speed and decision. More pressing problems demand our attention.

Results of Quick Disinfection.

Here are sets of facts well-known to the authorities concerned. They are of such a nature that they can be tested to the last item. No one has ventured to impugn them. Before the war a battalion of English troops was ordered to Delhi, a hotbed of venereal disease. The C.O., in alarm, consulted with his medical officer. The latter advised the men to carry permanganate of potash and to swab with it immediately after exposure. In four years that battalion had six instead of hundreds of cases of venereal disease, which works out at the rate of 1·5 per 1000 per annum. About the same time venereal disease was reduced to "negligible proportions" at Mhow by the same means. During the war a medical officer in charge of troops stationed in a large dockyard and seaport town employed similar measures and achieved exactly the same results as his predecessor at Delhi—a rate of 1·5 per 1000 per annum. In the same town 496 sailors in charge of Surgeon-Commander P. H. Boyden swabbed themselves with permanganate of potash. Only one man took the disease, and he swabbed himself not immediately, but six hours after exposure. In this district, which is served by a single venereal diseases hospital, the employment of quick disinfection was adopted by several medical officers in charge of soldiers. At the time of my last inquiry the records of this hospital contained the names of hundreds of men infected after slow disinfection, and the name of not a single man infected after quick disinfection.

A Contrast and the Explanation.

Now contrast the results of questioning 2193 venereal patients at Rochester Row Military Hospital from Sept. 1st, 1918, to June, 30th 1919, as to the extent to which self-applied medicants were used. These results are recorded in "Table H" of the White Paper published by the Inter-departmental Committee on Prophylaxis against Venereal Disease—that White Paper which was issued by way of testimonial to the N.C.C.V.D., and is the immediate cause of the present "most painful and unnecessary controversy." According to Table H, 110 men contracted venereal disease after immediate disinfection with permanganate of potash. Now, what is the explanation of this amazing contrast? How did it happen that quick disinfection failed so miserably in the area served by Rochester Row Hospital and succeeded so magnificently elsewhere?

The explanation is found when we examine another set of facts. In March, 1916, the Army Council wrote two letters to the general officers commanding-in-chief the various districts in Great Britain. The first, which is dated March 18th, ordered the establishment of venereal ablution rooms in which soldiers returning to quarters after exposure could practise self-disinfection. The second, which is dated August 9th, deplored the failure of the ablution rooms, and attributed it to the slackness of medical officers in charge of troops. It gave a table which showed that while one M.O. who was "keen" had a venereal rate of 58·3 per 1000 per annum, another who was "indifferent" had under precisely the same conditions a venereal rate of 104 per 1000 per annum. Unquestionably the Army Council was right. The degrees of success achieved by the two officers measured their competency. Is it possible to conceive any other explanation of the extraordinary contrast between the results achieved in the area served by Rochester Row Hospital and those achieved at Delhi and elsewhere?

"Adequate Supervision."

On p. 7 of the White Paper is the following footnote: "Prophylactic methods were introduced tentatively in 1916, but, until the middle of 1918, were largely neglected, as they were not under adequate supervision." It is time to describe this "adequate supervision." With the bottles and tubes, of which I told in the letter which appeared in THE LANCET of Nov. 22nd, arrived instructions (1) that these appliances were to be used with delay; (2) that they were to be exposed where the men could help themselves privately; and (3) that medical officers were to exercise strict supervision. I wrote at once that it was impossible to follow instructions; one could not at the same time strictly supervise and not supervise at all. I insisted besides that the bottles and tubes were of secondary importance as compared to careful instruction of the men. Hitherto every great success had been achieved without appliances and solely by careful instruction. Again, I insisted that the bottles and tubes ought not to be left exposed; the men were not shy and would ask for them readily, but were liable, unless care were taken, to put them to wrong uses. My protests were unheeded. Then began the "adequate supervision" which the White Paper records. Inspecting officers were appointed. These gentlemen periodically visited the places where the bottles and tubes were kept, counted those bottles and tubes, saw that everything was clean and neat, departed, and made their reports. Any properly trained housemaid would have discharged the duty as well or better. Absolutely no care was taken as to the instruction of the men. Hence the contrast between the area served by Rochester Row and various other places.

A Personal Experience.

The foregoing is beautifully illustrated by my own experience. One unit in my charge consisted mainly of elderly, married, home-service men, a most respectable lot. I believe I never had a case of venereal disease from among them. At first their bottles and tubes were placed in charge of an N.C.O., who reported that they were asked for at the rate of one or two a week. But the inspecting officer insisted on their removal to a place whence the men could help themselves. Thereupon the bottles (not the tubes) began to disappear at the rate of 40 a week. Inquiry revealed the fact that the permanganate solution had become fashionable as a tooth-wash. The men were admonished and the practice ceased, but later some person, who, I think, must have been a sympathiser with the N.C.C.V.D., took to destroying both bottles and tubes, and we were never able to catch him. Still later I was asked, when giving evidence before the Inter-departmental Committee, what proportion of my men used the disinfectants; and I, having in mind the toothwash and the fanatic, replied that I did not know. It was accounted to me as sin.

Need for More Enlightened Control.

And now I come to the gist of what I have to say. Very plainly the army has been under incompetent management as regards venereal disease—management so incompetent that it is probably a product of

fanaticism rather than of incapacity to learn. It is possible that the same incompetency will prevail at the Ministry of Health. Our present and most urgent task, then, is not to reform the N.C.C.V.D. which, in great measure, has fallen from grace, but to seek the establishment of more enlightened control at the Ministries of War and Health.

A second task should be to secure the repeal of that atrocity the Venereal Diseases Act of 1917. At the request of a customer a chemist may supply advice and medicine for the prevention or cure of catarrh, or influenza, or small-pox, or cancer; but, forbidden by the Act, he must not supply a disinfectant for the prevention of venereal disease. In the former case the chemist would perpetrate a fraud, in the latter case he would not; but such is the solicitude of the N.C.C.V.D. and its supporters for the health of the community that they had this precious Act added to the laws of Great Britain.

A third task should be the promotion of a properly accredited Board of Inquiry into the prevalence of venereal disease, of which a principal object should be the issue of a correct balance-sheet of the effects of prophylaxis in the army during the war. The balance-sheet issued in the White Paper is fraudulent.

I am, Sir, yours faithfully,

Southsea, Dec. 6th, 1919. G. ARCHDALL REID.

DYSENTERY SIMULATING TUBERCULOSIS.

To the Editor of THE LANCET.

SIR,—I find many men have been demobilised who suffered from dysentery whilst abroad. A small percentage of these men will show signs of liver abscess, and one termination of this complication is rupture into a bronchus with profuse hæmoptysis over a long period. I saw a case a few months ago that on account of the great wasting and bleeding had been notified as a case of pulmonary tuberculosis. Five weeks in hospital with emetine injections gave great improvement and an increase in weight of over 30 lb.

My chief diagnostic points were: (1) Great pain over right scapula with no physical signs in that area; (2) all physical signs at the right base only; (3) liver and splenic tenderness; (4) peculiar skin colour tinge.

I think it worth while calling attention to these cases because if the dysenteric origin is recognised early proper treatment can be efficiently given, whilst a wrong diagnosis means disaster.

I am Sir, yours faithfully,

FRANK CLIFFORD,
Tuberculosis Physician.

The King Edward VII. Welsh National Memorial Association: Tuberculosis Institute, Swansea, Dec. 8th, 1919.

GENERAL MEDICAL COUNCIL: IRISH ELECTION.

To the Editor of THE LANCET.

SIR,—Will you allow me, through your columns, to thank the 616 Irish doctors who voted for me at the recent election, as well as the many Service men and others whose support came too late?

I am, Sir, yours faithfully,

Dublin, Dec. 4th, 1919. J. C. MCWALTER, M.D.

THE LATE DR. NORMAN P. LAING.—Dr. Norman Preston Laing, son of Mr. J. G. Laing, medical officer of health for Lathom and Burscough, Lancashire, died recently at the early age of 30. Educated at Liverpool University, he graduated M.B., Ch.B. in 1912, and proceeded to the M.D. degree in the present year. After holding house appointments at the Royal Infirmary, Liverpool, he went to Leicester as house physician, assistant pathologist, and house surgeon at the Royal Infirmary in that city, and on the outbreak of war joined the Royal Army Medical Corps (T.F.), and was appointed medical officer at the remount depôt, Lathom Park. He afterwards served at the front, being attached to the Loyal North Lancashire Regiment, but was invalided home in 1916. Later he served on a hospital ship and again went to France. In October of last year he was discharged as medically unfit, having been gassed and a victim of trench fever. Early in the present year he entered into partnership at Southport, but was handicapped by the state of his health and subsequently broke down and died.

Obituary.

NELSON CONGREVE DOBSON, F.R.C.S. ENG., CH.M.,

CONSULTING SURGEON, BRISTOL GENERAL HOSPITAL.

Mr. N. C. Dobson, in consequence of comparatively early optic atrophy, had many years of blindness, which necessitated the giving up of all surgical work, and he had lived the life of an invalid for more than 20 years. He died on Nov. 16th at his house at Clifton at the age of 74, after much waiting for the end, which he had long expected. He had outlived so many of his old friends and colleagues that his life's work is almost forgotten by the present members of his profession. Those who remember him in his days of active work will feel that they have lost one whose life was well spent and who set an excellent example of good work to those with whom he was associated.

As a frequent contributor to the *Bristol Medico-Chirurgical Journal* he wrote many notices of old friends who had departed, and he thoughtfully anticipated the time when some friend would be called upon to write an obituary notice of himself. Accordingly he spent some of the many spare moments of his later years in typing the following autobiographical notes:—

"I was born at Holbeach, in Lincolnshire, on April 11th, 1845. My school life was passed at the Holbeach Grammar School and at a private school in Cambridgeshire, but in consequence of constant ill-health my school learning was very insufficient. At the age of 16 I was apprenticed to Dr. Harper in the small town in which I was born. I remained with him three years. He was an excellent surgeon for his time, and I learned many things of him for which I was always thankful. I then entered St. Thomas's Hospital, having a fair knowledge of the bones and odds and ends of medical matters in general. I took the M.R.C.S. and L.S.A. in the spring of 1867 and in June of that year was appointed house surgeon to St. Thomas's. As a student I gained the first college prize of £30 in both the first and second year, but in the third year only succeeded in gaining the second prize, being beaten by William Anderson, afterwards surgeon to St. Thomas's and professor of anatomy to the Royal Academy, but I carried off the chief prize of my time—viz., the treasurer's gold medal.

In December, 1867, I was elected assistant house surgeon at the Bristol General Hospital, and in February, 1868 I succeeded my old friend Dr. Siddall as house surgeon, which office I held for the full period of three years, when I resigned to enter into practice in Clifton in March, 1871, and was almost immediately appointed surgeon to the Bristol Hospital for Sick Children and Women; this post I held only for a few months, having to resign on being elected December, 1871, as surgeon to the Bristol General Hospital, being then a few months over 26 years of age; this office I held until January, 1893, when I resigned in consequence of ill-health and was then appointed consulting surgeon to the hospital.

I was early attached to the Bristol Medical School, being demonstrator and afterwards lecturer on anatomy, later lecturer on surgery, and subsequently professor of surgery in the Bristol University College, and, finally, emeritus professor, being one of the first on whom that distinction was conferred.

I have held the office of President of the Bristol Medico-Chirurgical Society, and had originally taken an active part in its foundation. I was also President of the Bath and Bristol Branch of the British Medical Association and Vice-President of the Surgical Section at the Association meeting in Bristol in 1894. Among other functions I distributed the prizes and delivered an address to the students in November, 1895. I was for many years a member of the Council of the University College, and formerly a member of the Clifton Shakespeare Society."

Mr. Dobson took the F.R.C.S. in 1870, and received the honorary distinction of Ch.M. Bristol in 1912. He wrote several papers of note; he contributed to the *Medical Times and Gazette*, 1870, *St. Thomas Hospital Reports*, 1875, and on several occasions to the *Bristol Medico-Chirurgical Journal*. He was a fluent speaker, and was commonly in evidence at meetings of various medical societies. During the last 25 years his rôle of a partially or totally blind invalid had taken him from much association with his colleagues, but the large attendance at his funeral showed that his retirement had not obliterated the memory of his genial personality and comradeship. Possessed of an excellent memory, and with his previous

literary training, he was always able to make apt quotations for the varying events of the time, and he followed the events of the war during the last five years with a keenness heightened by the fact that four sons were engaged therein; two of these he lost, the one a brilliant artillery officer was killed in action at Loos, the other in the unsuccessful attempt for the relief of Kut-el-Amara. His eldest son did much good work in India, Egypt, and Palestine, and the youngest cheered the heart of his invalided father at home by receiving the distinction of V.C. (in addition to his previous D.S.O.) for the brilliant and successful attack in Kronstadt Harbour last August.

ARTHUR EVERSHED, M.R.C.P. LOND., M.R.C.S. ENG.,

LATE SENIOR PHYSICIAN TO THE NORTH LONDON CONSUMPTION HOSPITAL; AND TREASURER OF THE ROYAL SOCIETY OF PAINTER ETCHERS.

THE death occurred recently at Eversfield of Dr. Arthur Evershed, formerly in a good consulting practice in London, but who was widely known in the artistic world as a landscape painter and especially as etcher.

Arthur Evershed was born at Billingshurst in 1836, the son of Dr. Peter Evershed, and the family was strongly medical, for all his brothers became medical practitioners. But his first bent was towards art, and he went when quite young to the studio of Alfred Clint, a marine painter and also an accomplished etcher, and a quick result was the appearance on the walls of the Royal Academy Exhibition of two pictures of Sussex landscape. After seven years of keen art study Evershed, yielding to the persuasion of his father, entered at Guy's Hospital and qualified in 1863 after a successful career as a student. Being anxious to settle in the country, he spent a short period as assistant to one of his brothers and settled down at Ampthill, where he remained for 10 years. Later he moved to Hampstead, and here he rapidly acquired a large practice, while devoting his spare time to art. During 20 years at Hampstead he led the double life of physician and artist, and became eventually senior physician to the Mount Vernon Hospital, while he also found time to publish two portfolios of etchings entitled "An Etcher's Rambles." Etching became now his particular pursuit; he drew with facility directly on the copper, and was a recognised master of this medium. In 1894 his health failed, and he retired from medical practice, and gave up the rest of his time to painting, etching, and nature study. He spent two years in Italy, became a regular exhibitor at public galleries, and after election to the Royal Society of Painter Etchers was appointed treasurer of the society, on retirement from which post he was elected an honorary fellow, the occasion being taken to present him with a valuable portfolio of the works of his confrères. Evershed, who died in Fishbourne, the village of his retirement, married in 1864 Marie Hester Field, a lineal descendant of Oliver Cromwell. He leaves behind him a widow, 7 children, 14 grandchildren, and 1 great-grandchild, but only one of his children has decided to follow medicine. Among his books may be mentioned "A Set of Dry Points," published in 1875, "Sketches on the Arun, in Dry Point," issued two years later, and "An Etcher's Rambles—The Thames," published in 1879, which went into a second series.

FREDERICK MARSDIN, M.B. LOND., F.R.C.S. ENG.

Mr. Frederick Marsdin, who died at Eastbourne on Nov. 28th in his eighty-sixth year, was the doyen of the medical profession in the south-coast town. Born at Stainforth, near Doncaster, he served with the British force in the Russo-Turkish War of 1853–4, and, returning to this country, turned his attention to medicine. He received his medical education at King's College, London, and the Royal Infirmary, Edinburgh, and became a Member of the Royal College of Surgeons of England as far back as the year 1859. Two years later he took the licence of the Royal College of Physicians of London, became an M.B., London, in the following year, and a Fellow of the Royal College of Surgeons of England (by examination) in 1863. After a few years at Tiverton, in Devonshire, he settled at Eastbourne in 1869, where he practised for half a century. The kindliness of nature which characterised Mr. Marsdin, and his ability in his professional sphere, gained him an extensive practice. Among numerous appointments he was medical officer of one of the districts of the Eastbourne Union, and one of the surgical staff of the Princess Alice Hospital. Although his profession made much claim upon his time he was much interested in the rearing of cattle, and at his farm at Langney produced beasts which were sought after at all the neighbouring markets. A bachelor and the last of his family, his loss is much lamented among a wide circle of friends at Eastbourne.

Medical News.

THE BELGIAN MEDICAL PROFESSION.—At the Royal Society of Medicine on Monday next, Dec. 15th, Dr. Pechère, president of the Belgian Committee for the Assistance of Doctors and Pharmacists in Belgium, who suffered so grievously during the German occupation, will give an account of the hardships underwent and of the success of the efforts made to alleviate their unhappy condition. The chair will be taken at 5 P.M. by Sir Rickman Godlee, chairman of the Belgian Doctors' and Pharmacists' Relief Committee formed in this country in November, 1914.

THE SOCIETY OF APOTHECARIES OF LONDON: LORD MAYOR'S DAY DINNER.—The first official dinner of the Society of Apothecaries of London since the commencement of hostilities was held in the banqueting-hall of the society on Dec. 9th, when the Master, Mr. Samuel Osborn, F.R.C.S., presided, and the Lord Mayor and Sheriffs of London were the guests of honour. The toast of "The King" having been received with musical honours, the Master proposed "The Health of the Lord Mayor and Sheriffs," which was also enthusiastically received. In his reply the Lord Mayor emphasised the benefits of apprenticeship, and expressed the hope that chemists would adopt that method of training. In response to "The Navy, Army, and Air Forces," proposed by Colonel B. B. Connolly, C.B., Sir John Goodwin, the Director-General of the Army Medical Service, referred to the services which members of the Apothecaries' Society and medicine generally had rendered to the country during the war, giving those services wholeheartedly and self-sacrificingly—money, time, and lives. He paid a warm tribute to the bravery and endurance of our troops, remarking that the greater the adversity to which they were subjected the better the soldier. The people of the country, too, had rendered splendid service in the war by their support of the hospitals, the Lady Mayoress being a type of the women of the nation who had given of their best. In proposing "The Guests," Sir Shirley Murphy emphasised the value of the work done by the medical services during the war, and the success which those services had attained was admirably shown in the recent address by Sir John Goodwin before the Royal Society of Medicine. If such things could be done for our armies what might be done for our civilian population? And this had been marvellously foreshadowed by Sir George Newman in recent publications. The work of the Medical Research Committee had laid foundations of paramount importance both for the army and the civil population. The alliance between the profession of medicine and the City Companies was an augury of good for research and knowledge for the betterment of mankind. Sir Norman Moore, President of the Royal College of Physicians of London, in his reply, referred to the granting of the charter of the Apothecaries' Society, which was largely due to the energies of Theodore de Mayerne and Henry Atkins. Mayerne was the first man to write what were now known as clinical notes of cases, and they would bear comparison with those which were now made every day in our hospitals. In a felicitous speech Dr. W. F. R. Burgess proposed the Society of Apothecaries, but while welcoming the day of sanitary progress he expressed the fear that the new health organisation would deprive the ordinary medical man and his patients of individuality, as it would be necessary to hand over so much work to special treatment. Sir George Makins, President of the Royal College of Surgeons of England, proposed the health of "The Master," to which Mr. Osborn replied, and in doing so took the opportunity of asking the medical profession to do all that was possible to help those ex-Service medical officers who required help and also their dependents. An excellent musical programme rendered by Miss Violet Openshaw and Mr. Ivor Walters added to the amenity of a pleasant evening.

MIDDLESEX HOSPITAL FESTIVAL DINNER.—There was a distinguished gathering on Dec. 9th at the Savoy Hotel, London, when a special appeal was made for the £200,000 required to set the Middlesex Hospital on its feet. The occasion was notable for the sympathetic understanding with which the Prince of Wales, who presided, described the aims and uses of a great general hospital; and his advocacy led to the receipt of nearly £53,000 in subscriptions and promises. A women's dinner was held at the same time, at which the Countess of Athlone presided.

COMPLIMENTARY DINNER TO SIR JOHN MACALISTER.—In view of the long and valuable services which Sir John MacAlister has rendered to the Royal Society of Medicine as its secretary, and in order to congratulate him on the honour of knighthood which he has recently received, the council of the society have decided to give him a complimentary dinner. This will be held at the Connaught Rooms on Thursday, March 18th, 1920, when it is hoped that there will be a large gathering of Fellows and members of sections.

ST. MARY'S HOSPITAL MEDICAL SOCIETY.—Sir Arthur Conan Doyle lectured on Dec. 3rd to a medical audience at a crowded meeting of the St. Mary's Hospital Medical Society, his subject being "The Material Side of the Psychic Movement." Speaking as a medical man to a medical audience, he said there was no objection which could occur to the most sceptical which had not in the past occurred to him. But he could not believe that men of honour, such as Crookes and others, could be mistaken in the evidence adduced by themselves. Spiritualism, he said, was too big a thing to be a religion: it was part of the common heritage of mankind. He declared himself to be at one with the Churches in combating materialism.

BRISTOL MEDICAL SCHOOL DINNER.—After an interval of six years the annual dinner of the Bristol Medical School was revived. On Dec. 4th, under the presidency of Dr. R. G. Poole Lansdown, about 180 students, past and present, attended, including for the first time women students. The company stood in silence for a few minutes in honour of Bristol students killed in the war, whose names were read out by the President. The health of Sir Anthony Bowlby, the guest of the evening, was proposed by Dr. J. A. Nixon, who spoke of their guest's work in France. In reply, Sir Anthony Bowlby gave some account of the work done in France by men of the Bristol School, and made various generalisations as to his experiences during the war. He dwelt specially on the value of recreations and amusements to relieve the gloom and monotony of military service, and the applicability of the same principle to the present industrial situation. Professor G. A. Buckmaster acknowledged gratefully the warm welcome he had received in Bristol, and other speeches were made by Professor F. E. Francis, the Dean (Professor E. Fawcett), Mr. E. W. Hey Groves, and Dr. J. J. S. Lucas.

ROYAL SURGICAL AID SOCIETY: AN APPEAL.—For the past 57 years the Royal Surgical Aid Society has rendered important service to the community by supplying to the poor surgical appliances of all kinds, thus in many cases enabling them to earn their living and preventing them from being a burden on society. During its existence the institution has supplied more than a million appliances to the poor, and during the war it has given special help to the relatives and dependents of our sailors and soldiers. In the years which are before us the aftermath of the war will make great calls upon the society's ministrations, and in addition to the need for an extension of premises owing to this cause, it is necessary to make good the destruction to the offices caused by a fire which occurred two years ago. Under the auspices of the Lord Mayor of London a special appeal has therefore been issued, and at the annual meeting of the Society at the Mansion House on Dec. 4th Sir Edward Cooper advocated its support. He pointed out that while the demand on the help which the Society could give was increasing, the restricted size of the present buildings, owing to the fire, greatly hampered the necessary work of the clerical staff; while, moreover, the cost of surgical instruments had increased. He earnestly pleaded for the sum of £30,000 to meet the need of an institution which was doing a splendid work, and which was undenominational, the only test of an applicant being "need." The Bishop of Kensington, the Rev. Father Bernard Vaughan, the Chief Rabbi, Sir A. Pearce Gould, Mr. Muirhead Little, and Colonel T. H. Openshaw, honorary consulting surgeon to the Society, among others, earnestly supported the Lord Mayor in his appeal, and at the close of the meeting the secretary announced that subscriptions amounting to £410 had been received during the afternoon. Contributions to the General Fund and to the Rebuilding Fund should be sent either to the Secretary, Mr. Richard C. Tresidder, at the Offices of the Society, Salisbury-square, Fleet-street, London, E.C. 4, or to Messrs. Barclay's Bank, Limited, 19, Fleet-street.

ROYAL MEDICAL BENEVOLENT FUND.—Sir Charters J. Symonds, honorary treasurer of the Royal Medical Benevolent Fund, 11, Chandos-street, Cavendish-square, W., sends the following appeal:—"This Fund has hitherto been able to send a Christmas gift of £1 to those who have received grants during the year, varying in amount from £5 to £12. There are 120 of these deserving people, and there is no cash in hand to meet the need."

SMALL-POX IN CHESHIRE.—Six cases of small-pox have been admitted to hospital in connexion with an outbreak of this disease at Bebington, Cheshire.

AT a meeting of the Worcestershire Insurance Committee, held on Dec. 6th, it was pointed out in the report of the subcommittee, which had been considering the terms of service, that it was laid down that a practitioner was required to give treatment to any applicant whether he produced a medical card or not, but that he "might" make a charge to a person who could not at the time produce evidence that he was insured. The Committee therefore recommended that representation should be made to the Minister, suggesting that it should be made clear that a doctor should be able to "demand" payment of his fee before treatment was given in the case of persons who could not produce evidence that they were insured. Mr. Willis Bund (chairman of the Worcestershire County Council) said he thought it was an underhanded attempt on the part of the Ministry to get out of the medical profession general treatment gratuitously for everyone. He quite agreed that a man who met with an accident or who was taken ill suddenly ought to have treatment, but to smuggle it in in that way seemed to him to be a dishonest proceeding. The recommendation was adopted.

DERBY MEDICAL SOCIETY.—A special clinical and pathological meeting of this society was held at the Derbyshire Royal Infirmary on Nov. 25th, Sir Richard Luce, the President, being in the chair.—The following cases and specimens were exhibited. The President: Epithelioma in Scar of Burn; the chief interest of this case was that the scar had been present since infancy, 74 years previously.—Mr. F. L. A. Greaves: A case of Laceration of the Frontal Lobe and one of Sarcoma of Clavicle.—Dr. Hugh Barber: Two cases of Renal Dwarfism, with Genu Valgum; this form of interstitial nephritis of children was illustrated with photographs and pathological specimens of other similar cases.—Major A. E. Milner: Some excellent Radiographs of Dr. Barber's cases, showing the irregular ossification of the bones.—Dr. C. D. Lochrane: Two specimens of Carcinoma of the Fundus Uteri, one quite early and the other later, and also Fibroid Uterus with large Hydrosalpinx.—Dr. A. L. Sherwood: A Heart case with musical bruit, audible one or two feet from the chest; unusual because it was early diastolic in time and due to aortic regurgitation.—Dr. H. G. W. Dawson: A case of Malignant Disease of the Superior Maxilla.—Dr. R. Douglas Laurie: An Operating Table made in a motor workshop in France from his own model, specially designed for chest and femur cases, the chief features being the arrangements for allowing the rotation of the patient and keeping continuous extension on the limb. It might be used with great advantage in civil practice for many cases.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held at the Leeds General Infirmary on Nov. 28th.—Mr. E. R. Flint read a paper on Gastric Ulcer, its Clinical and Surgical Aspects. After dealing with the symptomatology of chronic and recurring gastric ulcer and the recent experimental work which has been undertaken to determine its causation, Mr. Flint reviewed the various operative procedures which have been adopted for its treatment. He strongly advocated partial gastrectomy as the ideal procedure for chronic ulcers at the pylorus or on the lesser curvature, and the results in over 40 cases in which he had performed the operation added much weight to his contention.—Dr. H. B. Scargill exhibited a number of slides illustrating the X ray diagnosis of gastric ulcer and the specimens subsequently removed by operation, which confirmed the diagnosis. An interesting discussion followed.—Among the cases and specimens exhibited at the meeting were the following:—Sir Berkeley Moynihan: A specimen of three-quarters of the Stomach with attached portion of jejunum, including a gastro-enterostomy opening. The patient, a woman aged 36, suffered from the perforation of a gastric ulcer on May 17th, 1903, and a perforation of a second ulcer on May 30th, 1904; at the second operation a gastro-enterostomy was performed. Perforation of a third gastric ulcer occurred on Oct. 14th, 1914. Symptoms recurred, and on Nov. 2nd, 1919, a further operation was performed and a jejunal ulcer was found. The stomach with the scars of the three ulcers and the jejunum attached to it were successfully removed.—Mr. Harry Lee: A series of water-colour drawings of the Fundus Oculi showing injuries and abnormalities met with during the war.—Dr. W. H. Maxwell Telling and Professor M. J. Stewart: Specimens from a case of Endothelioma of the Dura Mater.

UNIVERSITY OF MANCHESTER.—A public appeal is being made for £500,000, which is urgently needed by the University of Manchester. The University needs were already pressing in 1914, when an appeal was prevented by the war. A much larger number of teachers is required, and a considerable increase in equipment. Several new courses of instruction have been established, and more buildings will have to be erected. The pressure on space is most felt in the departments of chemistry and medicine, though all the departments are overflowing. The number of students in all faculties has increased by 700.

Dr. E. M. Brockbank has been elected a member of the Court of Governors of the University of Manchester, as representing members of Boards of Faculties who are not members of the Senate.

BIRMINGHAM HEALTH RECORD.—The report of the medical officer of health for the third quarter of the year states that in every respect this quarter was one of the best on record. The general death-rate, 8·4 per 1000, was a record for any third quarter. The infant mortality rate was the lowest on record, being 68 per 1000 births. This is attributed to the efforts of the Public Health Committee and the better education of mothers.

GENERAL HOSPITAL, BIRMINGHAM.—Dr. C. G. Teall, a former resident of the hospital, who has had experience of radiographic work in Salonika, has been elected to the newly created post of assistant radiographer with charge of the electro-therapeutical department. The work in this department and the X ray work of the hospital has greatly increased lately, and the need for a medical man to supervise them has become imperative. Dr. H. W. Featherstone has been elected to the post of assistant anæsthetist. There are now an honorary anæsthetist, three assistant anæsthetists, and a resident anæsthetist to cope with the very heavy surgical work of the hospital. There is a serious shortage of hospital beds in Birmingham, and it is estimated that about 1000 more beds are required to meet the needs of the district. One consequence of the lack of accommodation is that the beds are largely occupied by emergency cases and that there is great delay in admitting the ordinary surgical patients. The time of both surgeons and physicians is taken up with the treatment of acute emergencies entailing a considerable amount of operative work.

Mr. H. W. Archer-Hall, has been elected an assistant surgeon to the Birmingham and Midland Eye Hospital. Mr. Archer-Hall, who has been upon the resident staff for some time, was a member of the first medical expedition to Serbia, when he received the Cross of Mercy and the Royal Red Cross of Serbia.

Lieutenant-Colonel H. Norman Barnett, after more than five years on active service, has resumed his private work in Bath in connexion with diseases of the ear, nose, and throat.

THE medical officers of health in Wales have formed a branch of the Society of Medical Officers of Health, and will hold their first meeting in Cardiff on Friday, Dec. 12th.

A CLINIC IN PSYCHIATRY IN CARDIFF.—A representative meeting was recently held at Cardiff to consider the desirability of establishing a clinic in psychiatry. It was decided that an institute of 72 beds with gymnasium and workshops represented a minimum requirement to meet adequately the present needs. While the full scheme is under consideration, a proposal is on foot to establish a temporary clinic at the King Edward VII. Hospital, which will not only meet a public need, but will also provide opportunities for instruction in psychiatry when the reorganisation of the Welsh medical school is carried out.

GUEST HOSPITAL, DUDLEY.—At the annual meeting a report was submitted stating that the admissions during the year were 1195, a number considerably less than in any of the previous four years. The number of surgical out-patients was 4009 and the attendances about 20,000. These were the highest numbers recorded. The number of patients in the out-patient eye department was 2167, and attendances 7585. The income amounted to £8751 and the expenditure was £12,589. Since 1917 the adverse balance had increased from £1531 to £6461.

Mr. Charles Crossley, L.R.C.P. & S. Edin., M.R.C.S. Eng., a well-known member of the medical profession in Leicester, has recently died at the age of 63. The son of a medical man, he entered as a student at Guy's Hospital, and qualified in 1880. He was actively interested in political and municipal affairs, a prominent member of the Leicester town council, and in 1898-99 president of the Leicester Medical Society. He was a justice of the peace for the city, a Freemason, and surgeon to the Provident Dispensary.

DONATIONS AND BEQUESTS.—Dr. John Aitken, of Falkirk, has left the residue of his estate, probably about £60,000, one-half to provide a temperance public-house or houses and the other half to the necessitous poor of Falkirk.—The Royal Infirmary, Liverpool, has received an anonymous gift of £20 000.—Guy's Hospital has received an anonymous gift of £20,000.—The Committee of the Sea Services Commemoration, in winding up the business of the Thames River Pageant, have allocated the surplus of the funds in hand, amounting to about £3000, equally to seamen's hospitals at London, Liverpool, and Marseilles.—By the will of the late Mrs. Eliza Avins, of Glenwood, Moseley, Birmingham, the testatrix bequeathed £2000 each to the Royal Orthopædic Hospital, Birmingham, and the Queen's Hospital, Birmingham, £1000 each to the Women's Hospital, the Eye Hospital, and the Ear and Throat Hospital; £500 each to Moseley Hall Convalescent Hospital. Subject to certain legacies to individuals, the testatrix also left £1000 each to the Deaf and Dumb Institution, Birmingham, and the Blind Institution, with the ultimate residue of her property to the Royal Orthopædic Hospital and the Women's Hospital, Birmingham.—By will the late Mr. J. Scott, of Wolverhampton, has left £5000 to the Wolverhampton and South Staffordshire General Hospital, for additions thereto, to be known as the "John Scott Wing," £500 each to the Wolverhampton and District Hospital for Women, the Wolverhampton and Midland Counties Eye Infirmary, and the Royal Orphanage, Wolverhampton.—Mr. George Barbour, of Bolesworth Castle, Cheshire, who died recently, has bequeathed £5000 to the Chester Royal Infirmary.—The Manchester Royal Infirmary has received an anonymous donation of £20,000. The sum is available for any or every branch of the infirmary work. The infirmary requires an increased income of £9000 a year to restore the finances to a satisfactory condition.

Parliamentary Intelligence.

HOUSE OF LORDS.

TUESDAY, DEC. 2ND.

THE Rats and Mice (Destruction) Bill was read a third time and passed.

HOUSE OF COMMONS.

WEDNESDAY, DEC. 3RD.

Replacement of Older Medical Officers.

Mr. LEONARD LYLE asked the Secretary for War if he would say what steps, if any, his department was taking to replace the older doctors in the Royal Army Medical Corps by younger men who had just left hospital, especially in view of the fact that most of the older men left their practices in order to serve their country for the duration of the war.—Mr. CHURCHILL replied: The older doctors who wish to be demobilised are being released as rapidly as possible as establishments are reduced or substitution by younger men who have signed the new contract is effected. Any newly qualified medical man who desires to serve in the Royal Army Medical Corps is given a six months' commission provided he is fit for general service and under 45 years of age, but I regret that the number of those electing to serve has not up to the present been as large as was hoped.

Vitamines in Butter and Margarine.

Mr. CHARLES EDWARDS asked the Prime Minister whether he had received a communication from the Monmouth County Council enclosing a report upon the relative values of margarine and butter; and whether he would consider altering the law so as to compel the makers of margarine to ensure that it should contain the vitamines similar to those in natural butter, and to which much of its food value was due.—Dr. ADDISON replied: I have seen a copy of a resolution of the Monmouthshire County Council on this subject, and I should be glad to receive a copy of the report therein mentioned. The presence or absence of what are known as vitamines in various articles of food is at the present time the subject of active research. I am afraid, however, that the knowledge at present available is not at present sufficient to make the honourable Member's suggestion a practicable one.

THURSDAY, DEC. 4TH.

Medical Institutions under the Insurance Act.

Lieutenant-Colonel Sir ALFRED WARREN asked the Minister of Health if he would state how many Friendly Societies' medical institutions approved under Section 15, Subsection (4), of the National Health Insurance Act were now in existence; how many of such approved medical institutions had ceased to exist since the coming into operation of the National Health Insurance Act, and what cause (other than insufficiency of income) had brought about

their dissolution; whether any complaints had been made to the National Health Insurance Commission or the Ministry of Health as to the lack of efficiency of the medical service to insured persons rendered by such approved institutions; if so, whether such complaints had been investigated and established by any impartial or competent authority under the Insurance Act; and if he would say why the Ministry of Health was not prepared to pay approved medical institutions for services rendered to insured persons such amounts pro rata in fees and additional bonuses granted by the Treasury towards increased expenses upon the same recognised basis as the Ministry had been and were now paying the panel doctors engaged in private practice and rendering similar services under the Insurance Act.—Dr. ADDISON replied: I would refer my honourable friend to the correspondence which I am sending him showing that every one of the approved medical institutions referred to in his question is being afforded the opportunity of submitting a claim for grants analogous to those which have been made to insurance practitioners. It would take some little time to furnish the whole of the information asked for in the early part of the question as it is not readily available; but I shall be pleased to have particulars sent to my honourable friend if, after consideration of the correspondence which I am sending him, he considers that any useful purpose would be thereby served.

Amendment of National Health Insurance Act.

Mr. KILEY asked the Prime Minister whether he could state when the Bill would be introduced to amend the law of health insurance under the National Insurance Act.—The PRIME MINISTER replied: This question is at present under consideration by the Government, and I cannot therefore make any statement at present.

Vaccination in Ireland.

Mr. WATERSON asked Mr. Attorney-General for Ireland whether he was aware that hundreds of defaulters under the Vaccination Acts were being prosecuted or threatened with prosecution in county Wexford; that during the past few months large numbers of men from the town of Wexford had suffered imprisonment in default of paying fines under the Vaccination Acts; and that at the present time large numbers at New Ross and Gorey were liable to imprisonment in default of payment; and what was the reason for the differential treatment meted out to Irish disbelievers in vaccination as compared with the state of the law in England, Wales, and Scotland.—Mr. HENRY (Attorney-General for Ireland) replied: The guardians of the Wexford, New Ross, and Gorey Unions are enforcing the Vaccination Acts and, where necessary, institute legal proceedings at petty sessions. Vaccination is compulsory in Ireland, and the King's Bench Division have enforced the application of the Acts by mandamus. The punishment inflicted is a matter for the court before which the case comes.

International Opium Convention, 1912.

Sir J. AGG-GARDNER asked the Home Secretary when he proposed to introduce the Bill which had been drafted to give effect to the terms of the International Opium Convention, 1912, in order that pharmacy legislation might be in accord with the Convention and the requirements of Article 295 of the Treaty of Peace.—Mr. SHORTT replied: I hope a Bill for the purpose mentioned may be introduced early next session.

Nurses' Registration (Scotland) Bill.

Mr. MUNRO (Secretary for Scotland) presented a Bill "to provide for the registration in Scotland of nurses for the sick." The Bill was read a first time.

FRIDAY, DEC. 5TH.

The Mental Deficiency and Lunacy Amendment Bill was read a third time.

MONDAY, DEC. 8TH.

Success of the Panel System.

Lieutenant-Colonel CLAUDE LOWTHER asked the Minister of Health whether evidence could be produced to show that the panel service had improved the health of the nation.—Dr. ADDISON replied: The working of the medical benefit under the Insurance Act had been scarcely 18 months in existence when war broke out, and the disturbing effects of war conditions which have prevailed over the greater part of the period during which it has been in operation make it impossible to produce concrete evidence which would measure the improvement in the health of the nation due to the insurance medical service.

Cost of a State Medical Service.

Lieutenant-Colonel CLAUDE LOWTHER asked the Minister of Health whether he would indicate what amount of money was required to give the whole community an efficient medical service.—Dr. ADDISON: If my honourable friend means a complete system of medical services of the different kinds needed for the varied requirements of the whole community I cannot at the present moment hazard an estimate of the cost.

Phthisis Before and After the War.

Lord ROBERT CECIL asked the Minister of Health what was the mortality rate due to phthisis during the year before the Insurance Act was passed, the year before the war, and last year.—Dr. ADDISON replied: The mortality rate for pulmonary tuberculosis in England and Wales in the years in question was as follows: In 1910, 1·015; in 1913, 1·004; and in 1918, 1·343. The figure for 1918 is based upon figures of the civilian deaths and civilian population only, and regard must be had to various considerations before drawing an inference from it as compared with the figures given for 1913 and 1910.

TUESDAY, DEC. 9TH.

Vaccination in Ireland.

Mr. HAYDAY asked the Chief Secretary to the Lord Lieutenant of Ireland whether, in view of the position of opponents to vaccination in Ireland, hundreds of objectors to the operation being liable to prosecution, he could see his way at once to introduce an Act exempting from the provisions of the compulsory law those who honestly objected to vaccination, and thus bring the law into line with that prevailing in Great Britain.—Mr. MACPHERSON replied: It is not proposed to alter the existing vaccination law in Ireland.

Divorce and Insanity and Inebriety.

Lieutenant-Colonel RAW asked the Secretary for the Home Department if he would state what was the number of married persons certified as insane in England and Wales and the average number of cases which recovered annually after five years' confinement; and whether the Government would introduce legislation to enable sane parties to obtain divorce in cases of insanity declared incurable after such period of confinement.

Lieutenant-Colonel RAW asked the Secretary for the Home Department if he would state what was the number of married persons annually committed by courts to inebriate reformatories and the percentage of such cases that recovered after three years' confinement; and whether the Government would introduce legislation to enable the innocent spouse to obtain divorce in cases of inebriety declared incurable?—Major BAIRD (Under Secretary for Home Affairs) replied: I will answer these questions together. My right honourable friend the Home Secretary has made inquiry and finds that there are no recent figures available. It is very difficult to say when an insane person or an inebriate is cured, and it would be almost impossible to collect statistics on the lines suggested in the questions. The Royal Commission on Divorce in the report which they issued in 1912 discussed fully the question of incurable insanity and inebriety in relation to divorce, and gave such figures as could be obtained. Until there is some measure of agreement on this very controversial question legislation is difficult, and I fear that I can add nothing to the reply given by the Leader of the House on August 6th last.

Ministry of Pensions Vote.

On a Supplementary Vote for the Ministry of Pensions,

Sir L. WORTHINGTON-EVANS (Minister of Pensions) stated that there was an increase of £10,000,000 due to recommendations of the Select Committee on pensions and allowances. There was an increased cost of £5,700,000, due to the larger number of men coming forward for pensions this year than was expected, owing to the rapid demobilisation of the forces. Referring to the advances and improvements made in the treatment of disabled men, Sir L. WORTHINGTON-EVANS remarked that there had been an increase in the cost of treatment amounting to the large sum of £10,000,000.

Sanatoriums for Tuberculous Service Men.

On a vote of £10,000 for Ministry of Labour (Unemployment Exchanges),

Mr. S. BALDWIN (Financial Secretary to the Treasury) said that great anxiety had been felt by the Ministry of Health and the Ministry of Pensions regarding the treatment of discharged men suffering from tuberculosis. He understood that the accommodation in the country was insufficient for the needs of these men. This sum of £10,000 was the amount which it was estimated that the Office of Works would have to spend in erecting additional sanatoriums for the Ministry of Health between now and the end of the current financial year. The whole scheme would involve for buildings something like £250,000, and it would enable the Department to treat 1000 additional patients. The work would be executed with the utmost regard for economy, and army huts would be utilised as far as possible. Arrangements were being made with the local sanitary authorities, giving them the option of taking over the buildings and equipment at the end of a period of five years on terms very favourable to themselves.

The vote was agreed to.

Nurses' Registration.

The Nurses Registration (Ireland) Bill passed through Committee and was read a third time.

The Nurses Registration (Scotland) Bill was passed through all its stages.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

Tuesday, Dec. 16th.

GENERAL MEETING OF FELLOWS: at 5 P.M.
Ballot for Election to the Fellowship. (Names already circulated.)

MEETINGS OF SECTIONS.

Wednesday, Dec. 17th.

HISTORY OF MEDICINE (Hon. Secretaries—Arnold Chaplin, F. G. Crookshank): at 5 P.M.
Papers:
Professor F. J. Cole: The History of Anatomical Injections.
Professor Clifford Dobell: The Discovery of the Intestinal Protozoa of Man.
N.B.—Visitors are cordially welcome.

Thursday, Dec. 18th.

DERMATOLOGY (Hon. Secretary—Henry MacCormac): at 5 P.M.
Cases and Specimens (4.30 P.M.):
Mr. F. Cuthbert: Picture of Granuloma Venereum.
Dr. Sibley: Mycosis Fungoides.
Dr. Graham Little: (1) Calcinosis with Pigmentary Skin Lesions; (2) Generalised Rodent; (3) Mycosis Fungoides (?)
Dr. Haldin Davis: Extensive Scaly Eruption, following Prolonged Administration of Organic Arsenic.

Friday, Dec. 19th.

ELECTRO-THERAPEUTICS (Hon. Secretaries—Walter J. Turrell, Stanley Melville): at 8.30 P.M.
Paper:
Dr. J. C. Mottram: The Leucocytic Content in Radium Workers.
Adjourned Discussion—
On Major Cooper's paper: The Artificial Stimulation of Muscle, with Demonstration of a New Form of Faradic Coil.
This paper is printed in the current issue of THE LANCET.

ROYAL SOCIETY OF ARTS, John-street, Adelphi, W.C.
MONDAY, Dec. 15th.—8 P.M., Cantor Lecture:—Dr. J. T. Hewitt: Synthetic Drugs. (Lecture III.)

ROYAL MICROSCOPICAL SOCIETY, at the Northampton Polytechnic Institute, St. John-street, Clerkenwell, E.C.
WEDNESDAY, Dec. 17th.—7.30-10.30 P.M., Conversazione.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL INSTITUTE OF PUBLIC HEALTH, in the Lecture Hall of the Institute, 37, Russell-square, W.C.
Course of Lectures on Housing Problems and Town Planning in Relation to Public Health.
WEDNESDAY, Dec. 17th.—4 P.M., Lecture VIII.:—Dr. I. G. Gibbon, C.B.E.: Housing and the Slum Problem.
Course of Instruction for Candidates as Tuberculosis Officers, General Practitioners, and others. Bacteriological Demonstrations will be given in the Laboratories of the Institute, and visits arranged to Sanatoriums, Tuberculosis Dispensaries, &c.
THURSDAY, Dec. 18th.—5 P.M., Lecture XI.:—Dr. J. D. Grant: Tuberculosis of the Larynx—Treatment, especially in the Home.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.
WEDNESDAY, Dec. 17th.—4.30 P.M., Lecture:—Dr. A. H. Gosse: Auricular Fibrillation.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART POST-GRADUATE COURSE, Westmoreland-street, W.
MONDAY, Dec. 15th.—11 A.M., Out-patients: Dr. Goodall. 2 P.M., In-patients: Dr. Moon.
TUESDAY.—2 P.M., Out-patients: Dr. R. Wells. 2.30 P.M., In-patients: Dr. Gibbes.
WEDNESDAY.—2 P.M., Out-patients: Dr. Moon. 5.30 P.M., Lecture:—Dr. Moon: Cardio-Vascular Neuroses.
THURSDAY.—10 A.M., In-patients: Dr. Hamill: 2 P.M., Out-patients: Dr. Price.
FRIDAY.—2 P.M., Out-patients: Dr. Gibbes. 2.30 P.M., In-patients: Dr. Wells.
SATURDAY.—10 A.M., In-patients: Dr. Hamill.

MANCHESTER ROYAL INFIRMARY POST-GRADUATE CLINIC.
TUESDAY, Dec. 16th.—4.30 P.M., Lecture:—Mr. J. H. Ray: Tumours of the Thyroid.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.

APPERLY, F. L., M.B., B.Ch. Oxon., M.R.C.S., L.R.C.P., has been appointed Lecturer in Pathology at the University of Melbourne.
ARCHER-HALL, H. W., D.O. Oxon., M.R.C.S., Assistant Surgeon, Birmingham and Midland Eye Hospital.
DAVIDSON, M., M.D. Oxon., M.R.C.P. Lond., Physician in charge of Out-patients, Royal Waterloo Hospital for Children and Women.
EDMUNDS, A., C.B., M.B., M.S., B.Sc., Surgeon to King's College Hospital.
FRANKLIN, P. J., F.R.C.S., Surgeon in Charge of the Throat and Ear Department of the East London Hospital for Children.
HAINES, R. L., M.R.C.S., L.R.C.P. Lond., Assistant Surgeon to the Gloucestershire Royal Infirmary and Eye Institution.
REYNOLDS, A. E., M.R.C.S., Assistant Ophthalmic Surgeon to the Miller General Hospital, Greenwich.
Certifying Surgeons under the Factory and Workshop Acts: COLGAN, J., M.B., Ch.B. Dub. (Lancs); FITZGERALD, J., (Ballinrobe No. 2 District); WILLIAMS, G., M.B., Ch.B. Edin. (Gatehouse); COOPER, F. W., L.R.C.P. & S. Edin., L.F.P.S. Glasg. (Princes Risborough); CROSBIE, K. C. (Grassington); MCKENNA, J. A., L.A.H. Dub. (Monasterevan); LEE, M. P., L.R.C.P. & S. Irel. (Newport, Mayo); ROBERTSON, H. (Cleator); JAMISON, A., M.B., B.Ch. R.U.I. (Ballylesson).

Vacancies.

For further information refer to the advertisement columns.

Aberdeen Royal Hospital for Sick Children.—Hon. S. for Diseases of Ear, Nose, and Throat, and Hon. Asst. S.
Beckenham Education Committee.—Sch. Dent. £450.
Birmingham City Education Committee.—Asst. Sch. M.O.'s £450.
Birmingham General Hospital.—H.S. and H.P. £100. Res. Anæsth. £100.
Birmingham, Queen's Hospital.—Two H.P.'s, Two H.S.'s, and Cas. H.S. £90.
Bolingbroke Hospital, Wandsworth Common, S.W.—Secretary £300. Hon. Radiographer and Medical Electrician.
Bradford City Infant Clinic.—Female Asst. M.O. £400.
Bristol General Hospital.—Cas. H.S. £175.
British Honduras.—Asst. M.O. $1900.
Burnley County Borough.—Tuber. O. and Director of Municipal Laboratory. £600. Asst. Sch. M.O. £500.
Buxton, Derbyshire, Devonshire Hospital.—Asst. H.P. £120.
Chelmsford, Essex County Council.—Asst. County M.O.H. £600.
Chelmsford, Essex Education Committee.—Sch. Med. Inspec. £400.
Chesterfield and North Derbyshire Royal Hospital.—Sen. H.S. £300.
Chester Royal Infirmary.—H.P. £150.
City of London Hospital for Diseases of the Chest, Victoria Park, E.—H.P. £100.
Cockermouth Board of Guardians.—M.O.'s. £80 and £50. M.O.H.'s. £70 and £450.
Colchester, Essex County Hospital.—H.P. £200.
Darlington County Borough.—Asst. M.O.H. and Asst. Sch. M.O. £450.
Darlington General Hospital.—H.S. £250.
Derby, Derbyshire Royal Infirmary.—H.S. £200, Two Anæsth. and S. for X ray, &c., Dept.
Dorchester, Dorset County Council Education Committee.—School Dentists. £400.
Dumfries, Crichton Royal.—Asst. P. £350.
Dumfries and Galloway Royal Infirmary.—Res. H.S. £150.
Durham County and Sunderland Eye Infirmary.—H.S. £450.
Durham County Council.—Dis. Tubere. M.O. £600.
East African Protectorates.—M.O.'s. £400–£20–£500.
Edinburgh Corporation.—Asst. Clin. M.O. £500.
Gloucestershire Joint Committee for Tuberculosis.—Asst. Tubere. M.O. £500.
Gloucestershire Royal Infirmary and Eye Institution.—Ophthal. S.
Great Northern Central Hospital, Holloway, London, N.—Cas. O. £200. Two Anæsth. £10 10s.
Guildford, Royal Surrey County Hospital.—Third H.S. £150.
Guy's Hospital.—Hon. Asst. P.
Huddersfield County Borough.—Female Asst. M.O.H. £400.
Hull Royal Infirmary.—Asst. H.S. £150.
Kensington Royal Borough.—M.O.H. £800.
Leamington Spa, Warneford, Leamington, and South Warwickshire General Hospital.—Res. H.P. £200.
Leeds Public Dispensary.—Res. M.O. £200.
Liverpool, Stanley Hospital.—M.O. for Venereal Clinic. £150.
London Homœopathic Hospital, Great Ormond-street, Bloomsbury, W.C.—S. for Diseases of Throat, Nose, and Ear. S. to Hospital.
Macclesfield, Cheshire County Asylum.—Jun. Asst. M.O. £300.
Manchester Royal Infirmary.—H.S. to Aural, Gynæc., and Ophth. Depts. £100.
Manchester, St. Mary's Hospitals for Women and Children.—H.S. £100.
Middlesex Hospital.—P. in Charge of Physical Medicine Dept. and S. to Orthopædic Dept.
National Hospital for the Paralysed and Epileptic, Queen-square, W.C.—H.P. £150.
Newcastle-upon-Tyne, Hospital for Sick Children.—Junior Res. M.O. £200.
Nottingham City Asylum.—Second Asst. M.O. £300.
Nottingham General Hospital.—Cas. H.S. £150.
Oldham Royal Infirmary.—Third H.S. £200.
Peterborough Infirmary.—H.S. £150.
Portsmouth Borough.—Asst. M.O.H. and Chief Tubere. O. £600.
Reading, Royal Berkshire Hospital.—Senior Res. M.O. £350. Also Hon. S. to the Aural Dept.
Richmond, Surrey, Borough.—M.O.H. £800.
Royal College of Physicians, Pall Mall East.—Milroy Lecturer.
Royal Free Hospital, Gray's Inn-road, W.C.—First H.P., Second H.P., and Anæsth. £50.
Royal Waterloo Hospital for Children and Women, S.E.—Hon. Oph. S. Sen. and Jun. Res. M.O. £150 and £100 each.
St. George's Hospital, S.W.—Dent. S. and Asst. Dent. S.
Salford Royal Hospital.—Cas. H.S. £150.
Sheffield Royal Infirmary.—Asst. H.P. and H.S. £150.
Singapore, Straits Settlements.—Med. Supt. Infectious Diseases Hospital. $7200 ($840).
South London Hospital for Women, South Side, Clapham Common, S.W.—Female Asst. Path.
Stafford, Staffordshire County Council.—Dep. County M.O.H. £700.
Stafford, Staffordshire Education Committee.—Asst. Sch. Med. Inspectors. £450.
Stepney Tuberculosis Dispensary.—Asst. Tubere. O. £350.
Swansea County Borough.—Asst. M.O. £450.
Tiverton Hospital, Devon.—H.S. and Disp. £100.
University of London, South Kensington, S.W.—University Chair of Pathology. £800.
Ventnor, Isle of Wight, Royal National Hospital for Consumption and Diseases of the Chest.—Asst. Res. M.O. £200.

Wakefield, West Riding Asylum.—Jun. Asst. M.O. £400.
Wakefield, West Riding County Council.—School Oculist. £550.
West-End Hospital for Nervous Diseases, 73, Welbeck-street, W.—P.
West Ham Union Infirmary, Whipps Cross-road, Leytonstone, E.—Radiographer.
Whittingham, Preston, Lancs, County Asylum.—Asst. M.O. £300.
Wolverhampton and Staffordshire General Hospital.—H.S. £200.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at Derby, Gosport, Limerick, Southend, Lostwithiel, and at Rotherham.

Births, Marriages, and Deaths.

BIRTHS.

ALLEN.—On Nov. 23rd, at Ebor House, Blackheath, the wife of T. S. Allen, Captain, R.A.M.C., of a daughter.

FRANKAU.—On Dec. 5th, at Tenby-mansions, Nottingham-street, W., the wife of Claude Frankau, C.B.E., D.S.O., F.R.C.S., of a daughter.

MADGE.—On Dec. 2nd, at Brookside, Ashbourne, Derbyshire, the wife of Quintus Madge, O.B.E., M.R.C.S., L.R.C.P., of a daughter.

MARSHALL.—On Dec. 1st, at Coates-crescent, Edinburgh, the wife of Herbert F. Marshall, F.R.C.S.E., of a daughter.

NEIL.—At 77, Ullet-road, Liverpool, on Dec. 7th, to Dr. and Mrs. J. Campbell Neil, of Spring Vale House, Middleton, Lancs—a daughter.

NEVE.—On Dec. 5th, at Addiscombe-road, Croydon, Elsie, the wife of Clement Treves Neve, F.R.C.S., of a daughter.

MARRIAGES.

JONES—NORTH.—On Dec. 3rd, at St. Mary's, Kensington, Cecil Meredith Jones, M.B., B.S. Lond., elder son of the late J. Evans-Jones, M.D., Cathedral-road, Cardiff, and Mrs. Jones, Rosetta, Porthcawl, to Muriel, elder daughter of T. North, M.D., F.R.C.S.I., and Mrs. North, 55A, Welbeck-street, W.1, and New Southgate, N.11.

LAKE—DRYSDALE.—On Dec. 3rd, at the Parish Church, Beaminster, Herbert Arnold Lake, M.B., &c. (late Major, R.A.M.C.), to Stella Helen Drysdale, younger daughter of the late John Drysdale, of Castellaw House, Dunbar, and of Mrs. Drysdale, of Knowle Cottage, Beaminster.

THOMSON—DOBRÉE.—At the Church of Transfiguration, Hull, William Thomson, F.R.C.S., to Doris, elder daughter of Mr. and Mrs. N. P. Dobrée.

DEATHS.

RUTHERFORD.—On Nov. 20th, at Davenant-road, Oxford, Robert Leonard Rutherford, M.D., late Medical Superintendent Exeter Mental Hospital, aged 62 years.

SLOGGETT.—Suddenly, at Bournemouth, Colonel Henry Maxwell Sloggett, A.M.S., Ret.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Communications, Letters, &c., to the Editor have been received from—

A.—*American Journal of Electrotherapeutics and Radiology*, New York, Editor of.
B.—Board of Education, Lond.; Dr. H. N. Barnett, Bath; British Hospitals Association, Lond.; Dr. H. S. Banks, Motherwell; Dr. G. S. Buchanan, C.B., Lond.; Dr. G. Blacker, Lond.; Prof. J. M. Beattie, Liverpool; Mrs. A. Berkeley-Hill, Lond.
C.—Dr. S. D. Clippingdale, Lond.; Dr. H. P. Cholmeley, Forest Row; Capt. H. N. Collier, R.A.M.C.(T.); Dr. F. L. Collis, Swansea; Dr. F. Clifford, Swansea; Dr. H. C. Cameron, Lond.
D.—Decimal Association, Lond.; Dr. J. Donelan, Lond.
E.—Dr. A. M. Elliot, Lond.
F.—Dr. H. Frankling, C.B.E., Harrogate.
G.—Dr. A. M. H. Gray, C.B.E., Lond.; Dr. T. Godfrey, Lond.; Sir John Goodwin, K.C.B., C.M.G., D.S.O.; Capt. R. L. Gamlen, R.A.M.C.; Sir James Galloway, K.B.E., Lond.
H.—Dr. J. W. Harrison, Lond.; Dr. J. B. Hunt, Vienna.
I.—Imperial War Museum, Lond.
K.—Dr. A. Kidd, Gravesend; Mr. G. L. Keynes, Lond.; Dr. W. H. Kesteven, Lond.
L.—Mrs. H. Lewis, Lond.; Dr. C. E. Lakin, Lond.; Dr. D. Logan, Newmains; Dr. J. L. London, Hamilton.
M.—Mr. G. Mayall, Bolton; Dr. J. Macdonald, Huelva; Mental After-Care Association, Lond., Sec. of; Ministry of Health, Lond.; Mission to Lepers, Lond., Sec. of; Dr. R. L. Newell, Manchester; Dr. T. H. Morse, Deal; Dr. P. Manson-Bahr, D.S.O., Lond.; Capt. G. Maclean, R.A.M.C.
N.—Marquis of Northampton, Lond.
O.—Mr. E. Owen, Holyhead.
P.—Capt. J. Pickering, Portsmouth; Dr. R. H. A. Plimmer, Aberdeen; Dr. A. S. Percival, Newcastle-on-Tyne; Dr. E. Prideaux, Cambridge; Mr. F. Pamphilon, Gloucester.
R.—Dr. J. D. Rolleston, Lond.; Dr. W. H. Rowell, O.B.E., Stockport; Royal Institute of Public Health, Lond., Sec. of; Royal Sanitary Institute, Lond.
S.—Dr. H. B. Shaw, Lond.; Dr. C. Slater, Lond.; Dr. F. St. J. Steadman, Lond.; Dr. W. C. Sullivan, Lond.; Prof. Dr. N. Samaja, Bologna.
T.—Transvaal Education Dept., Pretoria; Capt. J. W. T. Thomas, R.A.M.C.
V.—Dr. S. Voronoff, Paris; Mrs. M. R. Verden, Lond.; Mr. R. M. Vick, Lond.
W.—Dr. J. T. Wilson, Lond.; Mr. H. B. Whitehouse, Birmingham; Dr. G. A. Watson, Leeds; Dr. F. J. Waldo, Lond.; Dr. R. McN. Wilson, Lond.; Dr. C. M. Wenyon, Lond.

Communications relating to editorial business should be addressed exclusively to the Editor of THE LANCET, 423, Strand, W.C. 2.

Notes, Short Comments, and Answers to Correspondents.

PUBLIC HEALTH IN EGYPT, 1917.

THE report for 1917 is a summary only of the work carried out during that year, owing to the severe strain on the department caused by war conditions. It is, on the whole, satisfactory. The population of the country by Census (1917) was 12,566,000, of whom 221,130 were foreigners, chiefly of Turkish, Greek, Italian, British, and French nationality. Of the 20 principal towns, Cairo had 753,800 inhabitants, including 75,000 foreigners (approximately), Alexandria 442,500 (with 79,000 foreigners), Port Said 76,100, and Tantah 58,523. The birth-rate for the whole country was 40·5, and the death-rate 29·7; in the province of the Fayum the birth-rate was 48·3, in Aswân it was only 32·1, the death-rates in these two provinces being 34·1 and 24·1 respectively. No considerable epidemic occurred in 1917, except one of relapsing fever (11,162 cases and 1043 deaths, of which 8156 cases and 728 deaths were in the Canal governorate), and a prevalence, though with diminished intensity, of typhus (18,569 cases and 4174 deaths, compared with 30,507 cases and 7096 deaths in 1916). An attempt was made to test the relative values of measures based on the theory of louse infection, and of those based on infection by inhalation; isolation of cases and observation of contacts were carried out in all instances; steam disinfection of the clothing of patients and contacts and of dwellings took place in one set of observations, and no disinfection whatever in the other. Measures based on the louse infection theory gave considerably better results, and have since been applied universally. There were 732 cases of plague, compared with 1702 in 1916; the case-mortality was 54·5 per cent. Suez had 318 cases with 195 deaths, and in the Fayum there were 148 cases with 77 deaths. Only two cases occurred in Cairo. There had been no plague in Suez since 1907. The overcrowding by casual labourers in recent years (due to the war) was, no doubt, the cause of the epidemic spread. Additional legal powers for dealing with cholera were granted by Statute, and owing to the unceasing and extreme care taken in the inspection of vessels and passengers, &c., Europe was saved from the danger of an invasion on several occasions. It would be impossible to over-estimate the importance of this administrative achievement. There were 1567 cases of small-pox, with 409 deaths, the prevalence being the lowest during the last nine years. The Anti-rabic Institute continued its good work; 971 persons were treated in all, from which number are to be deducted 327, either for non-attendance, or because the biting animal was proved to be healthy; 644 cases were fully treated, with 6 deaths (0·9 per cent.); 6 other deaths occurred either during treatment, or less than 15 days after its completion.

PUBLIC HEALTH AT HONG-KONG IN 1918.

THE total civil population of the island of Hong-Kong (1918) is estimated at 561,500, of whom 13,500 are "non-Chinese," chiefly of British, Portuguese, and Indian nationality; the actual number of the Chinese is probably much larger than the residue. The death-rate among Europeans was 13·0 per 1000 (excluding naval and military forces), for Indians 11·8, and for Chinese 24·5 per 1000. The chief causes of death among the non-Chinese were pneumonia (32), phthisis (30), typhoid fever (15), influenza (14), heart disease (13), and cerebro-spinal fever (11); only 6 deaths were due to malaria. Among the Chinese pneumonia caused 2219 deaths, phthisis 1035, cerebro-spinal fever 957, enteritis 819, beri-beri 800, general tuberculosis 469, malaria 392, and influenza 391. Out of 1913 notifications of infectious disease during the year, 1235 were cases of cerebro-spinal fever; there were 968 deaths, 19 cases and 11 deaths being among Europeans. There was also an influenza prevalence, especially in June, when 269 cases were admitted to the Civil Hospital, but the disease was not of a severe type. At Kowloon (on the mainland) there was an outbreak of cerebro-spinal fever, lasting from February until December. 329 cases were recorded, with 265 deaths, but Dr. J. T. Smalley, the medical officer in charge, states that "the number of cases was undoubtedly much larger." It is very satisfactory to learn that the Chinese are coming in greatly increased numbers to the Government dispensary for medical and surgical treatment; the number of patients was 13,378 compared with 9406 in 1917. "The increase from a little over 3000 in 1913 to 13,000 in 1918 illustrates plainly the gradual disappearance of the aversion of the Chinese race to our medical and surgical treatment." Similar appreciation of European care and skill is evidenced by the increased attendances at and admissions to other hospitals in the

colony. It is strong testimony to the skill and kindness of those who in these far-away stations pursue the healing art amid what must often be depressing surroundings. The mean temperature in January was 54° F., in July it was 81·8°. From May to October the monthly mean was above 70°. The rainfall was 101·6 inches, being 20 inches more than in 1917. The relative humidity exceeded 80 from March to September, inclusive (monthly means); 84 inches of rain were recorded during the four months, June to September. The principal civil medical officer, Dr. C. W. McKenny, and the medical officer of health, Dr. A. D. Hickling, report on the health of the colony generally, and the various civil hospitals and asylums are reported on by the physicians and surgeons in charge.

"THE CAUSES OF INFANT MORTALITY."

AT the last Chadwick public lecture of the autumn programme, delivered at the Hampstead Town Hall on Dec. 4th, Dr. H. J. Cates stated that insanitation was probably the most potent influence in the destruction of child life. Unhealthy homes lowered the vitality of parents and endangered child life at the most susceptible period, the first five years of life. The survey of housing recently carried out through the country had, he said, revealed an appalling condition of affairs. Since 1914 little work had been done in remedying defects, and as a result cottage property had fallen into disrepair. The cessation of building had led to overcrowding—in one industrial area alone it was estimated that 24 per cent. of the houses were overcrowded. Little or nothing could be done to remove the present insanitary conditions and to check the waste of life until there was an adequate supply of new houses.

Dr. Cates then went on to speak of an increase in venereal disease as one of the expected results of the war. Ophthalmia in the new-born, bringing with it the risk of life-long blindness, was increasing. In one district, with a population of 100,000 persons, there had been 70 per cent. more ophthalmia this year than in 1918. Ophthalmia could be prevented by cleanliness, and by the skilful use of appropriate lotions at the time of birth, but unfortunately the supply of trained midwives was not sufficient for the purpose.

MORE HINTS FOR CRIPPLES.

IN the *Badminton Magazine* for October Mr. G. M. Townsend, Deputy Conservator of the Indian Forest Service, continues the useful hints to cripples which first appeared in the March issue. Mr. Townsend speaks of what he knows, for he lost his leg above the knee-joint 13 years ago, and has been devoting his leave to a practical study of the ways of training war cripples in the use of their artificial limbs. He has visited the Queen Mary's School for Disabled Soldiers in Bombay, the Ecole Joffre and the Ecole Foch at Lyons, and the training centres at Roehampton and St. Thomas's Hospital. He warmly recommends the system of training adopted at the last-named, but fears that comparatively few of the men will persevere with the exercises when the stimulus of competition and supervision is removed. In order to meet this drawback and provide an abiding stimulus to complete recovery of working efficiency he wishes to organise a small club for disabled officers interested in games and athletic pastimes, so that they can exchange experiences and learn the easiest and best ways of carrying on. Among the special points on which Mr. Townsend lays stress are the fundamental importance of swimming as a preliminary to other forms of exercise and the need of a special riding saddle for use with an artificial leg. A practical form is here described. Mr. Townsend's keen interest in his fellow cripples is certainly being directed into fruitful channels.

THE METROPOLITAN WATER-SUPPLY DURING JULY, AUGUST, AND SEPTEMBER, 1919.

THE comparatively dry weather of July resulted in an improved condition as regards chemical quality of the raw river waters (Thames, Lee, and the New River), the rainfall being 2·36 inches, which is 0·04 of an inch below the average mean rainfall for this month during the previous 36 years (Thames Basin). There was in some instances, however, a deterioration in the chemical quality of the filtered waters, though bacteriologically they were satisfactory. The results were better all round compared with the averages for the year 1918. The returns for August showed an increased rainfall (2·80 inches) by 0·19 of an inch above the average mean rainfall for that month during the previous 36 years. In spite of this the results of chemical examination showed that, generally speaking, all three raw waters improved in quality, and the same appeared to be the case with the filtered waters. Compared with the averages for the year 1918 all three raw waters yielded better results chemically, as did the filtered waters, and contained fewer bacteria. In September the rainfall was comparatively low, 1·77 inches, being 0·29 of an inch below the average mean rainfall for that month during the previous 36 years. This corresponded with a deterioration as regards chemical quality in both raw and filtered waters. On the other hand, all three raw waters contained fewer bacteria compared with the averages for the year 1918, and the filtered waters gave satisfactory results. The purifying effect of storage is again brought out in the general results, nearly the whole of the supply being now stored antecedent to filtration.

A COMPETITION IN INGENUITY.

FROM a recent Memorandum issued by the Housing Department of the Ministry of Health we learn that a number of private firms are being formed for the purpose of constructing patent houses of various kinds. In other cases firms already in existence are prepared to modify their plant so as to produce building materials. The plans submitted are chiefly for houses of concrete or concrete and steel, and vary in cost between £600 and £800, though one firm is hopeful of producing a "monolithic" reinforced concrete house to satisfy the Ministry's requirements at a cost of only £350. A point in all these schemes is the rapidity with which the houses can be put together, a not uncommon estimate being four weeks per house. One firm hopes to be able to erect houses at the rate of ten in ten weeks. *A qui mieux mieux* is the motto for the present day, and may the spirit of it prove contagious.

MATERNAL IMPRESSIONS IN NEW MEXICO.

IN the November number of *Man* Elsie Clews Parsons gives an account of the customs relating to childbirth as practised in the Indian town of Zuñi, New Mexico. If a child has a rash it is due to the fact that before its birth the mother tested the heat of her oven by sprinkling bran in it. To cure the rash the mother soaks some bran in water and rubs it over the baby. If the baby has sores, which look like the spots of paint on a mask which the mother has seen worn by the father during her pregnancy, the rash is said to be cured by putting spots of paint on the baby and, at the same time, on the mask, like curing like being a characteristic of Zuñi thought. Masks seen by the mother in her pregnancy may also cause disfigurement in the baby, in which case the father puts on the mask, dances till he sweats, and with his sweat the baby is anointed. If a baby cries a great deal it is because its father sang a great deal before it was born, and for such crying there is no remedy. Other curious beliefs are the changing of the unborn girl into a boy should a man be present in the lying-in chamber; movement of the fœtus on the right side the sign of a girl, and on the left side the sign of a boy; and the swallowing of a bean to produce easy delivery. The idea in the latter case is that just as the bean slips down with ease so the delivery will be easy.

Demobilised, who has been asked to give a popular lecture on "Diseases connected with the War," would be glad of references to some of the literature on the subject, and to know where appropriate lantern slides can be obtained.

K. R.—No information is available as to the therapeutic value of "kola red oil." Kola red itself is obtained, along with caffeine and glucose, by decomposition of kolanin, a glucoside contained in fresh kola-nuts. The formula of kola red is $C_{11}H_{13}(OH)_5$.

BOOKS, ETC., RECEIVED.

HOEBER, PAUL B., New York.
Thoughts of a Psychiatrist on the War and After. By W. A. White, M.D. Pp. 137. $1.75.

METHUEN AND CO., London.
Text-book of Hygiene for Training Schools. By Margaret Avery, B.Sc. Pp. 324. 7s. 6d.

MILFORD, HUMPHREY, London. YALE UNIVERSITY PRESS, New Haven and New York.
Radio-Diagnosis of Pleuro-Pulmonary Affections. By F. Barjon. Translated by James Albert Honeij, M.D., Assistant Professor of Medicine, in Charge of Radiology, Yale School of Medicine. 1918. Pp. 183. 10s. 6d.

STOCKWELL, A. H., London.
Poems. By Dr. W. O. Greenwood. Pp. 32. 2s.

URBAN AND SCHWARZENBERG, Berlin and Vienna.
Urologisches Praktikum. By Dr. I. Cohn. Pp. 391. M.16.
Die Lumbalpunktion. Von Dr. K. Eskuchen. Pp. 188. M.8.
Die Indikationen zur künstlichen Unterbrechung der Schwangerschaft. Von Pr f. Dr. G. Winter. Pp. 317. M.15.
Feststellung und Behandlung der Tuberkulösen Infektion mittels Antitoxischer Heilkösper. Von Dr. Emanuel Wein. I. Teil. Pp. 160. M 8. II. u. III. Teil. Pp. 161–603. M.17.

WELLS, GARDNER, DARTON AND CO., London.
Truth of Christianity. By Lieutenant-Colonel W. H. Turton, D.S.O. 9th ed. Pp. 515. 2s.

WILLIAMS AND NORGATE, London.
Dental Caries in Relation to Oral Osmosis. By R. Eckermann, Ph.D., L.D.S. Pp. 264. 22s.

WRIGHT, JOHN, Bristol. SIMPKIN, MARSHALL, London.
Pye's Elementary Bandaging and Surgical Dressing. 14th ed. By V. Z. Cope, M.D. Pp. 232. 3s. 6d.